S. HRG. 98-469

GROUND WATER RECHARGE IN THE HIGH PLAINS STATES; AND DELIVERY OF WATER TO THE NORTH PLATTE IRRIGATION PROJECT

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

FIRST SESSION

ON

S. 1811

A BILL TO AUTHORIZE AND DIRECT THE SECRETARY OF THE INTERIOR TO ENGAGE IN A SPECIAL STUDY OF THE POTENTIAL FOR GROUNDWATER RECHARGE IN THE HIGH PLAINS STATES, AND FOR OTHER PURPOSES

H.R. 71

AN ACT TO AUTHORIZE AND DIRECT THE SECRETARY OF THE INTERIOR TO ENGAGE IN A SPECIAL STUDY OF THE POTENTIAL FOR GROUNDWATER RECHARGE IN THE HIGH PLAINS STATES, AND FOR OTHER PURPOSES

S. 1590

A BILL TO CLARIFY THE CONTRACTUAL AUTHORITY OF THE SECRETARY OF THE INTERIOR TO DELIVER WATER TO THE NORTH PLATTE IRRIGATION DISTRICT PROJECT

SEPTEMBER 29, 1983

Printed for the use of the
Committee on Energy and Natural Resources

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GROUND WATER RECHARGE IN THE HIGH PLAINS STATES; AND DELIVERY OF WATER TO THE NORTH PLATTE IRRIGATION PROJECT

THURSDAY, SEPTEMBER 29, 1983

U.S. SENATE,
SUBCOMMITTEE ON WATER AND POWER,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:08 a.m., in room SD–366, Dirksen Office Building, Hon. Don Nickles, presiding.

Present: Senators Nickles, Wallop, and Hecht.

Also present: Russell R. Brown, professional staff member; and Craig Gannett, counsel for the minority.

OPENING STATEMENT OF HON. DON NICKLES, A U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator NICKLES. Good morning. The hearing this morning before the Subcommittee on Water and Power is to take testimony on three bills:

Senate bill 1811 and H.R. 71, which is legislation to provide for a program of study and demonstration projects for ground water recharge in the Western States, and also Senate bill 1590 which is sponsored by Senators Simpson and Wallop to clarify the contractual authority of the Secretary of the Interior to deliver water to districts of the North Platte irrigation project.

As all of you know, I am a sponsor, along with Senators Exon and Zorinsky, of Senate bill 1811 which is identical to H.R. 71 as passed by the House. The application of this legislation to water problems facing my home State of Oklahoma is obvious.

Farmers in the panhandle of Oklahoma share the same problems faced by farmers in Nebraska, Texas, and the Dakotas, and other States underlain by the Ogallala aquifer. The level of water table is going down, and the cost of the water is going up.

I cannot overemphasize the fact that when we talk about depletion of ground water, we're not just addressing scientific hydrologic phenomenons, we're really talking about the ability of our farmers to earn a living, and in some cases a survival of rural towns and communities dependent on ground water for their supply.

Ground water depletion means far more than agricultural and economic stagnation. It can mean a reversal of economic stability and prosperity for large areas of the high Plain States. Such a reversal would be felt throughout the Nation.

Ground water depletion is a long-range problem that will not have an easy, quick fix. It will probably take decades, but what is embodied in Senate bill 1811 and H.R. 71 is, in my opinion, a rational beginning.

At this time I will ask for copies of the bills to be entered into the record at the appropriate place, and also welcome my colleague, Senator Simpson who is a cosponsor of Senate bill 1590 for his comments.

Senator Simpson, we welcome your leadership and interest on this legislation.

[The texts of S. 1811, H.R. 71, and S. 1590 follow:]

II

98TH CONGRESS
1ST SESSION

S. 1811

To authorize and direct the Secretary of the Interior to engage in a special study of the potential for groundwater recharge in the High Plains States, and for other purposes.

IN THE SENATE OF THE UNITED STATES

AUGUST 4 (legislative day, AUGUST 1), 1983

Mr. NICKLES (for himself, Mr. EXON, and Mr. ZORINSKY) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To authorize and direct the Secretary of the Interior to engage in a special study of the potential for groundwater recharge in the High Plains States, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "High Plains States Groundwater Demonstration Program Act of 1983".

SEC. 2. The Secretary of the Interior (hereinafter referred to as the "Secretary"), acting through the Bureau of Reclamation (hereinafter referred to as the "Bureau"), shall, in two phases, conduct an investigation of and establish demonstration projects for groundwater recharge of aquifers in

the States of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (such States to be hereinafter referred to as the "High Plains States") and in the other States referred to in section 1 of the Reclamation Act of 1902 (hereinafter referred to as "other Reclamation Act States"), as provided by this Act. The Bureau shall consult with the United States Geological Survey and other appropriate agencies and departments of the United States and of the High Plains States and other Reclamation Act States in order to carry out this Act.

SEC. 3. (a) During phase I, the Bureau, in consultation with the High Plains States and other Reclamation Act States and other appropriate departments and agencies of the United States, including the United States Geological Survey, shall develop a detailed plan of demonstration projects the purpose of which is to determine whether various recharge technologies may be applied to diverse geologic and hydrologic conditions represented in the High Plains States and other Reclamation Act States. In the preparation and development of such plan, the Bureau shall make maximum use of data, planning studies and other technical resources and assistance available from State and local entities: *Provided,* That contributions of such technical resources and assistance may be counted as part of the inkind services or other State contribution, but shall otherwise be provided

without compensation to the State or local entity. This plan shall contain the selection of not less than a total of twelve demonstration project sites in High Plains States and not less than a total of nine demonstration project sites in other Reclamation Act States. Demonstration project sites shall be confined to areas having a declining water table, an available surface water supply, and a high probability of physical, chemical, and economic feasibility for recharge of the groundwater reservoir. The plan shall provide for demonstration of the application of recharge technology and the selection of water sources, determination of necessary physical works and the operation of water replacement systems, formulation of a monitoring program, identification of any economic, legal, intergovernmental, and environmental issues and projection of planning problems associated with such systems, and recommendation of legislative and administrative actions as may be necessary to carry out phase II.

(b) During phase I the Bureau is authorized and directed to recommend demonstration projects to be designed, constructed, and operated during phase II.

(c) Within six months, after the enactment of an appropriation Act to carry out phase I, the Secretary shall make a preliminary selection of projects to receive further planning and development and shall initiate such further planning and development for those selected projects.

(d) Within twenty-four months after the date of enactment of an appropriation Act to carry out phase I, the Secretary shall transmit a report to Congress containing the recommendations made pursuant to subsection (b) and a detailed statement of his findings and conclusions.

SEC. 4. (a) During phase II, and subject to State water laws and interstate water compacts, the Bureau is authorized and directed to design, construct, and operate demonstration projects in the High Plains States and other Reclamation Act States to recharge groundwater systems as recommended in the report referred to in section 4(c).

(b) During phase II the Secretary, acting through the Bureau, shall contract with the various High Plains States and other Reclamation Act States to conduct a study to identify and evaluate alternative means by which the costs of groundwater recharge projects could be allocated among the beneficiaries of the projects within the respective states and identify and evaluate the economic feasibility of and the legal authority for utilizing groundwater recharge in water resource development projects.

(c)(1) Within twelve months after the initiation of phase II, and at annual intervals thereafter, the Secretary shall submit interim reports to Congress. Each report shall contain a detailed statement of his findings and progress respecting the design, construction, and operation of the demonstration

projects referred to in subsection (a) and the study referred to in subsection (b).

(2) Within five years after the initiation of phase II, the Secretary shall submit a final report to Congress. The final report shall contain—

(A) a detailed evaluation of the demonstration projects referred to in subsection (a);

(B) the results of the studies referred to in subsection (b);

(C) specific recommendations regarding the location, scope, and feasibility of operational ground water recharge projects to be constructed and maintained by the Bureau; and

(D) an evaluation of the feasibility of integrating these groundwater recharge projects into existing reclamation projects.

SEC. 5. There is authorized to be appropriated $500,000 for fiscal years beginning after September 30, 1983, to carry out phase I. Amounts shall be made available pursuant to the authorization contained in this section in a single sum for all demonstration project sites, and it shall be within the discretion of the Secretary to apportion such sum among such sites.

SEC. 6. There is authorized to be appropriated for fiscal years beginning after September 30, 1983, $20,000,000 (Oc-

tober 1983 price levels) to carry out phase II. Amounts shall be made available pursuant to the authorization contained in this section in a single sum for all demonstration project sites, and it shall be within the discretion of the Secretary to apportion such sum among such sites.

SEC. 7. The funds authorized to be appropriated pursuant to section 6 of this Act shall match on a four-to-one basis funds made available by the States, their political subdivisions, or other non-Federal entities to meet the cost of phase II: *Provided,* That, inkind services or other contributions by the States, their political subdivisions, or other non-Federal entities shall be considered in the determination of the matching non-Federal share. The Secretary is authorized to enter into memoranda of agreement with any appropriate agencies or departments of the High Plains States and other Reclamation Act States to share the costs of phase II.

SEC. 8. Any new spending authority described in subsection (c)(2) (A) or (B) of section 401 of the Congressional Budget Act of 1974 which is provided under this Act (or under any amendment made by this Act) shall be effective for any fiscal year only to such extent or in such amounts as are provided in advance in appropriation Acts.

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II

98TH CONGRESS
1ST SESSION

H. R. 71

IN THE SENATE OF THE UNITED STATES

JUNE 21 (legislative day, JUNE 20), 1983

Received; read twice and referred to the Committee on Energy and Natural Resources

AN ACT

To authorize and direct the Secretary of the Interior to engage in a special study of the potential for groundwater recharge in the High Plains States, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "High Plains States Groundwater Demonstration Program Act of 1983".

SEC. 2. The Secretary of the Interior (hereinafter referred to as the "Secretary"), acting through the Bureau of Reclamation (hereinafter referred to as the "Bureau"), shall, in two phases, conduct an investigation of and establish demonstration projects for groundwater recharge of aquifers in

the States of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (such States to be hereinafter referred to as the "High Plains States") and in the other States referred to in section 1 of the Reclamation Act of 1902 (hereinafter referred to as "other Reclamation Act States"), as provided by this Act. The Bureau shall consult with the United States Geological Survey and other appropriate agencies and departments of the United States and of the High Plains States and other Reclamation Act States in order to carry out this Act.

SEC. 3. (a) During phase I, the Bureau, in consultation with the High Plains States and other Reclamation Act States and other appropriate departments and agencies of the United States, including the United States Geological Survey, shall develop a detailed plan of demonstration projects the purpose of which is to determine whether various recharge technologies may be applied to diverse geologic and hydrologic conditions represented in the High Plains States and other Reclamation Act States. In the preparation and development of such plan, the Bureau shall make maximum use of data, planning studies and other technical resources and assistance available from State and local entities: *Provided,* That contributions of such technical resources and assistance may be counted as part of the inkind services or other State contribution, but shall otherwise be provided

without compensation to the State or local entity. This plan shall contain the selection of not less than a total of twelve demonstration project sites in High Plains States and not less than a total of nine demonstration project sites in other Reclamation Act States. Demonstration project sites shall be confined to areas having a declining water table, an available surface water supply, and a high probability of physical, chemical, and economic feasibility for recharge of the groundwater reservoir. The plan shall provide for demonstration of the application of recharge technology and the selection of water sources, determination of necessary physical works and the operation of water replacement systems, formulation of a monitoring program, identification of any economic, legal, intergovernmental, and environmental issues and projection of planning problems associated with such systems, and recommendation of legislative and administrative actions as may be necessary to carry out phase II.

(b) During phase I the Bureau is authorized and directed to recommend demonstration projects to be designed, constructed, and operated during phase II.

(c) Within six months, after the enactment of an appropriation Act to carry out phase I, the Secretary shall make a preliminary selection of projects to receive further planning and development and shall initiate such further planning and development for those selected projects.

(d) Within twenty-four months after the date of enactment of an appropriation Act to carry out phase I, the Secretary shall transmit a report to Congress containing the recommendations made pursuant to subsection (b) and a detailed statement of his findings and conclusions.

SEC. 4. (a) During phase II, and subject to State water laws and interstate water compacts, the Bureau is authorized and directed to design, construct, and operate demonstration projects in the High Plains States and other Reclamation Act States to recharge groundwater systems as recommended in the report referred to in section 4(c).

(b) During phase II the Secretary, acting through the Bureau, shall contract with the various High Plains States and other Reclamation Act States to conduct a study to identify and evaluate alternative means by which the costs of groundwater recharge projects could be allocated among the beneficiaries of the projects within the respective states and identify and evaluate the economic feasibility of and the legal authority for utilizing groundwater recharge in water resource development projects.

(c)(1) Within twelve months after the initiation of phase II, and at annual intervals thereafter, the Secretary shall submit interim reports to Congress. Each report shall contain a detailed statement of his findings and progress respecting the design, construction, and operation of the demonstration

projects referred to in subsection (a) and the study referred to in subsection (b).

(2) Within five years after the initiation of phase II, the Secretary shall submit a final report to Congress. The final report shall contain—

(A) a detailed evaluation of the demonstration projects referred to in subsection (a);

(B) the results of the studies referred to in subsection (b);

(C) specific recommendations regarding the location, scope, and feasibility of operational ground water recharge projects to be constructed and maintained by the Bureau; and

(D) an evaluation of the feasibility of integrating these groundwater recharge projects into existing reclamation projects.

SEC. 5. There is authorized to be appropriated $500,000 for fiscal years beginning after September 30, 1983, to carry out phase I. Amounts shall be made available pursuant to the authorization contained in this section in a single sum for all demonstration project sites, and it shall be within the discretion of the Secretary to apportion such sum among such sites.

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SEC. 7. The funds authorized to be appropriated pursuant to section 6 of this Act shall match on a four-to-one basis funds made available by the States, their political subdivisions, or other non-Federal entities to meet the cost of phase II: *Provided,* That, inkind services or other contributions by the States, their political subdivisions, or other non-Federal entities shall be considered in the determination of the matching non-Federal share. The Secretary is authorized to enter into memoranda of agreement with any appropriate agencies or departments of the High Plains States and other Reclamation Act States to share the costs of phase II.

SEC. 8. Any new spending authority described in subsection (c)(2) (A) or (B) of section 401 of the Congressional Budget Act of 1974 which is provided under this Act (or under any amendment made by this Act) shall be effective for any fiscal year only to such extent or in such amounts as are provided in advance in appropriation Acts.

Passed the House of Representatives June 20, 1983.

Attest: BENJAMIN J. GUTHRIE,

Clerk.

II

98TH CONGRESS
1ST SESSION

S. 1590

To clarify the contractual authority of the Secretary of the Interior to deliver water to the North Platte Irrigation District project.

IN THE SENATE OF THE UNITED STATES

JUNE 29 (legislative day, JUNE 27), 1983

Mr. WALLOP (for himself and Mr. SIMPSON) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To clarify the contractual authority of the Secretary of the Interior to deliver water to the North Platte Irrigation District project.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That notwithstanding any provision of the Act of June 17, 1902 (32 Stat. 338), as amended by Public Law 97–293, and subject to—

(1) the laws of Wyoming and Nebraska governing the appropriation, diversion, and use of water;

(2) any agreements between the irrigation districts which comprise the North Platte project; and

(3) the provisions of any applicable interstate compact or court decree;

the Secretary of the Interior, or his designate, shall provide silt-laden waters from the North Platte project, Wyoming and Nebraska, upon the request of the irrigation districts supplied by the project without any special charge or payment of any kind which is not specifically provided for or enumerated in any existing contractual agreements between the Bureau of Reclamation and the irrigation districts. The United States shall not assert any legal claims against the irrigation districts as a result of such deliveries which are made prior to the enactment of this Act.

STATEMENT OF HON. ALAN K. SIMPSON, A U.S. SENATOR FROM THE STATE OF WYOMING

Senator SIMPSON. Senator Nickles, I very much appreciate that, and I particularly appreciate your accommodating me this morning so that I just might present these very few remarks, and I admire the way you have come forward here and scheduled an early hearing on this timely matter, and you have certainly proven yourself to be a very capable and efficient new Member of the U.S. Senate, and I certainly enjoy working with you in many things.

Senator NICKLES. Thank you.

Senator SIMPSON. I have a prepared statement. Let me just ask, Mr. Chairman, that that be submitted into the record if I may, and then I'll summarize that, and you may then fire away. I can tell you anything you want to know about silt—no, I can't, but I can start.

This, I think all of us agree that one doesn't have to be in this legislative business long to see that we deal with legislation often, which is just introduced solely for political reasons as being very politically timely or—but with very little forethought or research, and this is not one of those off-the-cuff or knee-jerk items of legislation which is intended to appease some powerful interest group.

There is not a large, awesome constituency in my State that are involved in this, but it's very real to them because this is their last resort and the chance to correct an injustice that has burdened these Wyoming and Nebraska irrigators for years.

The appropriate congressional delegations have attempted to assist the affected irrigators in going through the proper administrative and agency channels to be relieved of this burden before introducing this legislation.

In each and every turn they've been met with frustration and bureaucratic reluctance so often found in our governmental system to live up to certain promises that were made to these irrigators so long ago. Hopefully this legislation would correct the present situation where the Bureau is presently assessing the irrigation districts, a very burdensome and onerous fee which is going to get even more burdensome and onerous. That fee is being charged for a procedure known as a silt run that has been a common practice in the irrigation districts for the greater part of a century and a procedure, that I might add, was understood by the irrigators that would be provided for by the Bureau of Reclamation at no charge. There was a contractual arrangement in funding and power was considered and irrigation was considered, and that was done, so really that doesn't present a very fine, good neighbor policy. This legislation is specifically created to deal with that situation squarely and I hope fairly.

You, Mr. Chairman and the subcommittee members are—and will certainly be even more familiar with the history of this controversy before the hearing is over, so I won't go into a long detailed history. I would simply say that it was one of the pioneer developments of irrigation in its time, the North Platte reclamation and irrigation project, and provided the irrigation benefits to over 1,500 farmers and irrigators with a total of about 400,000 acres. Since the creation of the project, they've relied on this process, which is con-

ducted through the Guernsey Reservoir and consists of flushing the irrigation canals and ditches with silt-laden water, silty water from the reservoir.

That silt coats the canal banks and results in a more productive and efficient irrigation system. It's tough enough with just evaporation alone in those systems in the West, and the silt is helpful that way, so they've relied on that for the greater part of a century, actually, to seal and coat their irrigation canals and ditches. In 1952 at the request of the Bureau of Reclamation, the irrigation districts transferred ownership of the power facility at Guernsey Dam to the Federal Government with the understanding that the silt run would be allowed to be continued, and be continued to be provided.

Then in 1959 the Bureau attempted to assess the irrigation districts, a charge known as a power interruption charge for the loss of power resulting from the annual silt run. And after discussion with the appropriate Interior officials, then that charge was not assessed, but in 1975 over 15 years later, the Bureau of Reclamation began to assess the charge against the irrigation districts. The irrigation districts paid the charge under protest until 1981, and not only then is the Bureau assessing a charge that the irrigation districts have never agreed to pay, but have changed the marketing conditions for selling of the power which has resulted in extraordinary increase in the size of the power interruption charge.

In 1982 the charge was approximately $25,000. Estimated costs for this year are $63,000, and for 1984 the projected costs are $130,000. Anyone that knows how an irrigation district operates knows that they can't withstand that kind of a budget increase, so the irrigation districts met with extreme reluctance, foot dragging on the part of the Bureau to reach a settlement. You'll hear the Bureau's side. You'll hear the irrigation district's side. It's a tough one. It is one of those almost insoluble ones. Those are the kind that get here before us.

I notice when everybody else has fought and the interest groups have gathered, and the swirl has ended, they come here and say you solve it, and meanwhile the only problem with that is we're dealing with 2,000 other items. It's very difficult to turn the same degree of attention to the issue that they have for years while they couldn't solve it, thus the need for the legislation, and I think, Mr. Chairman, that, in essence, is the extent of my remarks.

They can't agree. It comes to the fact that they can't afford this exhorbitant fee in the future, and what was a power interruption charge 5 years ago or 2 years ago is now with different marketing and computing and accounting—is a tremendously impossible burden for them, so I certainly appreciate your attention to it, and I certainly urge the subcommittee's timely and favorable consideration of the bill.

[The prepared statement of Senator Simpson follows:]

STATEMENT BEFORE THE SENATE SUBCOMMITTEE ON WATER AND POWER OF
THE COMMITTEE ON ENERGY AND NATURAL RESOURCES
BY
SENATOR ALAN K. SIMPSON

MR. CHAIRMAN. I THANK YOU FOR THE OPPORTUNITY TO MAKE SOME REMARKS BEFORE YOU AND THE DISTINGUISHED SUBCOMMITTEE ON WATER AND POWER REGARDING S. 1590, WHICH, IF PASSED, WOULD CLARIFY THE CONTRACTUAL AUTHORITY OF THE SECRETARY OF THE INTERIOR TO DELIVER WATER TO THE NORTH PLATTE IRRIGATION DISTRICT PROJECT. I AM JOINED WITH OVER 1,000 FARMERS AND IRRIGATORS IN NEBRASKA AND WYOMING WHEN I EXPRESS MY GRATITUDE FOR YOU SCHEDULING AN EARLY HEARING ON THIS EXTREMELY TIMELY SUBJECT.

MR. CHAIRMAN, AS YOU WELL KNOW, ONE DOESN'T HAVE TO BE IN THIS LEGISLATIVE BUSINESS FOR LONG TO SEE AND DEAL WITH LEGISLATION THAT IS OFTEN INTRODUCED SOLELY FOR POLITICAL REASONS -- AS BEING VERY "POLITICALLY TIMELY" BUT WITH VERY LITTLE FORETHOUGHT OR RESEARCH. THIS IS NOT ONE OF THOSE "OFF THE CUFF" OR "KNEE JERK" ITEMS OF LEGISLATION WHICH IS INTENDED TO APPEASE SOME POWERFUL INTEREST GROUP. THIS BILL REPRESENTS THE LAST RESORT AND THE CHANCE TO CORRECT AN INJUSTICE THAT HAS BURDENED THESE WYOMING AND NEBRASKA IRRIGATORS FOR YEARS. THE APPROPRIATE CONGRESSIONAL DELEGATIONS

HAVE ATTEMPTED TO ASSIST THE AFFECTED IRRIGATORS IN GOING THROUGH THE PROPER ADMINISTRATIVE AND AGENCY CHANNELS TO BE RELIEVED OF THIS UNJUST FINANCIAL BURDEN BEFORE INTRODUCING THIS LEGISLATION. UNFORTUNATELY, AT EACH AND EVERY TURN, THESE IRRIGATORS HAVE BEEN MET WITH THE FRUSTRATION AND BUREAUCRATIC RELUCTANCE -- SO OFTEN FOUND IN OUR GOVERNMENTAL SYSTEM -- TO LIVE UP TO PROMISES MADE TO THESE IRRIGATORS LONG AGO. THIS LEGISLATION WOULD CORRECT THE PRESENT SITUATION WHERE THE BUREAU OF RECLAMATION IS CURRENTLY ASSESSING AGAINST THE IRRIGATION DISTRICTS A BURDENSOME AND ONEROUS FEE. A FEE THAT IS BEING CHARGED FOR A PROCEDURE KNOWN AS A SILT RUN THAT HAS BEEN COMMON PRACTICE IN THE IRRIGATION DISTRICTS FOR THE GREATER PART OF A CENTURY. AND A PROCEDURE, THAT I MIGHT ADD, THAT WAS UNDERSTOOD BY THE IRRIGATORS THAT WOULD BE PROVIDED FOR BY THE BUREAU OF RECLAMATION FOR NO CHARGE. THIS CERTAINLY DOES NOT REPRESENT A "GOOD NEIGHBOR" POLICY AND THIS LEGISLATION IS SPECIFICALLY CREATED TO DEAL WITH THE SITUATION SQUARELY AND FAIRLY.

MR. CHAIRMAN, YOU AND THE SUBCOMMITTEE MEMBERS ARE -- AND WILL CERTAINLY BE EVEN MORE -- AWARE WITH THE HISTORY OF THIS CONTROVERSY BEFORE THIS HEARING IS OVER. I SEE NO NEED TO GO INTO A LONG

DETAILED HISTORY, BUT I WOULD LIKE TO TAKE A FEW MOMENTS AND GIVE YOU A BRIEF OVERVIEW OF THE CURRENT SITUATION.

THE NORTH PLATTE RECLAMATION AND IRRIGATION PROJECT WAS A PIONEER DEVELOPMENT OF ITS TIME. LANDS WHICH BENEFIT FROM THIS EARLY PROJECT RANGE OVER 100 MILES IN THE NORTH PLATTE RIVER VALLEY FROM GUERNSEY, WYOMING TO BRIDGEPORT, NEBRASKA CONSISTING OF APPROXIMATELY 390,000 ACRES. THIS TRANSLATES TO IRRIGATION BENEFITS TO OVER 1500 FARMERS AND FARMSTEADS. THE OVERALL WATER PROJECT CONSISTS OF THE PATHFINDER, GLENDO AND GUERNSEY DAMS AND SERVES IRRIGATORS ASSOCIATED WITH THE GOSHEN, PATHFINDER, GEARING, FT. LARAMIE AND NORTHPORT IRRIGATION DISTRICT.

SINCE THE CREATION OF THE IRRIGATION PROJECT, THESE FARMERS HAVE RELIED HEAVILY UPON A PROCESS KNOWN AS A SILT RUN TO BENEFIT THEIR CROPS, DITCHES AND CANAL BANKS. THIS SILT RUN, WHICH IS CONDUCTED FROM THE GUERNSEY RESERVOIR, CONSISTS OF FLUSHING THE IRRIGATION CANALS AND DITCHES WITH "SILTY" WATER FROM THE RESERVOIR. THIS SILT IS EXTREMELY USEFUL IN COATING THE CANAL BANKS AND RESULTS IN A MORE PRODUCTIVE AND EFFICIENT IRRIGATION SYSTEM.

IN 1952, AT THE REQUEST OF THE BUREAU OF RECLAMATION, THE

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IRRIGATION DISTRICTS TRANSFERRED THE POWER FACILITIES AT GUERNSEY DAM TO THE UNITED STATES GOVERNMENT. PRIOR TO THAT TRANSFER, THERE WERE DELIBERATE AND EXTENSIVE DISCUSSIONS REGARDING THIS SILT RUN PROCEDURE. IT WAS, AND STILL IS, THE UNDERSTANDING OF THE AFFECTED IRRIGATION DISTRICTS THAT THE SILT RUNS WOULD CONTINUE WITH NO RESULTING CHARGE OR FEE. THE DISCUSSIONS SURROUNDING THE SIGNING OF THE TRANSFER CONTRACT ASSURED THE IRRIGATORS THAT THE 1952 CONTRACT PROTECTED THEIR SILT RUN RIGHTS.

HOWEVER, IN 1959, THE BUREAU OF RECLAMATION ATTEMPTED TO ASSESS WHAT IS KNOWN AS A POWER INTERRUPTION CHARGE FROM THE IRRIGATION DISTRICTS. IT WAS FELT BY THE BUREAU OF RECLAMATION, THAT SINCE POWER GENERATION CAPACITY WAS LOST DURING THE SILT RUNS, THAT THE DISTRICTS SHOULD PAY FOR THAT LOSS. STRONG OPPOSITION FROM THE IRRIGATION DISTRICTS AND CONSULATIONS WITH THE APPROPRIATE BUREAU OF RECLAMATION OFFICIALS PREVENTED THE ASSESSMENT AT THAT TIME. AGAIN, THE IRRIGATION DISTRICTS AND THE IRRIGATORS THEY REPRESENT THOUGHT THEY WERE "SAFE". UNFORTUNATELY, THEY WERE WRONG. IN 1975, AFTER 15 YEARS, THE BUREAU OF RECLAMATION ONCE AGAIN ATTEMPTED TO ASSESS THE DISTRICTS THE POWER INTERRUPTION CHARGE.

THE AGGRIEVED IRRIGATION DISTRICTS APPROACHED THEIR RESPECTIVE CONGRESSIONAL DELEGATIONS FOR ADVICE. TOGETHER WE HAVE GONE THROUGH THE PROPER ADMINISTRATIVE AND AGENCY CHANNELS TO RESOLVE THIS DISPUTE. AS A LAST RESORT MY COLLEAGUES AND I HAVE TURNED TO THE LEGISLATIVE ARENA. CONGRESSWOMAN SMITH WAS SUCCESSFUL IN ATTACHING LANGUAGE TO THE EARLIER PASSED SUPPLEMENTAL APPROPRIATIONS BILL, UNFORTUNATELY THE HOUSE AND SENATE CONFEREES WERE UNABLE TO REACH AN AMICABLE SOLUTION BEFORE THE BILL NEEDED TO BE PASSED. THUS THE PROBLEM STILL REMAINS.

MR. CHAIRMAN, THE IRRIGATION DISTRICTS, MY CONGRESSIONAL COLLEAGUES, OR MYSELF ARE NOT LOOKING FOR A SIMPLE WAY TO AVOID PAYING THE GOVERNMENT WHAT IS OWED. IN THIS CASE, THERE IS SIMPLY NOTHING OWED. I WOULD ALSO LIKE TO STRESS THE GREAT FINANCIAL BURDEN THIS INTERRUPTION CHARGE HAS PLACED UPON THE IRRIGATION DISTRICTS. IN 1982, THE CHARGE WAS APPROXIMATELY $25,000. FOR THIS CURRENT YEAR, IT LOOKS AS IF THE CHARGE IS ESTIMATED AT OR NEAR $63,000. CURRENT ESTIMATES FOR SILT RUNS FOR THE UPCOMING YEAR ARE PROJECTED AT OVER $130,000 -- CERTAINLY AN ONEROUS BURDEN.

I NEED NOT TELL YOU THE GREAT ECONOMIC TROUBLES THAT ARE

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CURRENTLY PLAGUING OUR NATION'S FARMERS. NOT ONLY ARE WE LOOKING AT THE SITUATION WHERE PAYMENT OF SUCH EXORBITANT FEES WILL CERTAINLY CUT INTO THE PROFITS AVAILABLE TO FARMERS -- WE ARE LOOKING AT THE SITUATIONS WHERE THE IRRIGATORS WILL BE UNABLE, NO MATTER HOW WILLING, TO PAY.

AGAIN, MR. CHAIRMAN, I GREATLY APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE YOU AND STRESS THE NEED FOR THIS TIMELY LEGISLATION. WE HAVE REACHED AN IMPASSE BETWEN THE IRRIGATORS AND THE BUREAU OF RECLAMATION OVER THE INTERPRETATION OF THE CONTRACT THAT TRANSFERRED THE POWER FACILITIES AT GUERNSEY DAM TO THE FEDERAL GOVERNMENT. CERTAINLY, THE CURRENT PAST PRACTICE OF NOT CHARGING FOR THE SILT RUNS INDICATE THAT THE CHARGE IS NOT MEANT TO BE. I REGRET THAT WE HAVE BEEN UNABLE TO RESOLVE THE SITUATION WITHOUT DRAFTING LEGISLATION. I TRUST AND WISH THAT YOU AND THE COMMITTEE WILL GIVE TIMELY AND FAVORABLE CONSIDERATION OF THIS BILL.

Senator NICKLES. Thank you. Senator Simpson, we appreciate your statement and also the leadership that you've shown in this issue and we will ask that your comments be placed at the head of the remarks dealing with Senate bill 1590 so we can keep these in order, and again I appreciate your appearance before the committee today.

Senator SIMPSON. I thank you very much for making a special opportunity for me, and thanks.

Senator NICKLES. Thank you.

Senator Hecht, did you have an opening comment on either of these bills?

Senator HECHT. No, thank you very much.

Senator NICKLES. Senator Zorinsky.

Senator ZORINSKY. Thank you, Mr. Chairman.

Senator NICKLES. We welcome you before the subcommittee, and also as a cosponsor of Senator bill 1811.

STATEMENT OF HON. EDWARD ZORINSKY, A U.S. SENATOR FROM THE STATE OF NEBRASKA

Senator ZORINSKY. Thank you, Mr. Chairman. I am pleased to present my views to the subcommittee today regarding H.R. 71, the High Plains States Ground Water Demonstration Program Act of 1983. I believe that this legislation would be a proper step toward insuring sufficient ground water supplies for use by future generations.

Mr. Chairman, we find ourselves at the crossroads here today with regard to the quality and quantity of the ground water in the aquifers in the middle section of America. Nature has been kind to the people in this region. She has provided large underground reservoirs holding vast amounts of water to fuel the miracle of American agriculture, as well as to meet domestic and industrial needs.

At one time most people assumed that our ground water supply was practically inexhaustible, but we now know otherwise. Information provided in the Six State High Plains Ogallala Aquifer Regional Resources Study clearly suggests that all States overlying the Ogallala aquifer will suffer serious declines in subsurface water inventories over the next 40 years.

This is anything but good news to the people who depend so heavily on this valuable commodity and resource. Fortunately, we are aware of the problems far enough in advance that we can take effective steps in a calm and deliberate manner to compensate for this depletion. The question at this point is over how we should handle these problems and how to proceed.

The answers are not conclusive at this point, but it appears that various methods involving ground water recharge may prevent viable responses to the depletion problem. In recent years the idea of recharging subsurface water stores on a large scale has gathered momentum with water experts throughout the country.

There are several positive characteristics about ground water recharge techniques that are particularly attractive in relation to other water retention methods. For example, small recharge pit water basins have the potential to enhance rather than hamper local fish and wildlife areas.

Recharge systems may be cheaper, less obtrusive means for capturing water by storing most of it underground in the natural aquifer. It appears that some systems could be operated with very low energy costs. When we consider on one hand the problems we will be encountering with ground water levels on the high plains, and on the other hand, we recognize the potential to enhance ground water supplies to relatively new recharge methods that can be economical and environmentally safe, it is clear that we should do what is necessary to develop recharge technology to make it practical as a long-term water management technique.

Mr. Chairman, this bill is a great step forward in developing a solution to a problem. We need to know how ground water recharge can be used in different areas under different geological conditions. This project will provide the answers we need.

It provides for a deliberate, well-considered approach to study and locate proper demonstration areas, and for the construction and operation of the demonstration systems. The information we can expect to come out of this project will be invaluable in helping maintain our important ground water resources.

Mr. Chairman, I appreciate your kind attention to this matter, and I respectfully urge the subcommittee to report this bill favorably for consideration on the Senate floor.

Mr. Chairman, if I might have your indulgence, I would like to take this opportunity to address another issue today that is not new to the subcommittee. I am speaking of S. 1590, a bill to reserve the ongoing dispute between Wyoming and Nebraska irrigators, and the Bureau of Reclamation with regard to power interference charges accruing to facilitate silt runs.

I know that a number of other Members of Congress are here to speak on the problem as well as some of the irrigators, themselves, that are involved, so I'll keep my remarks very brief.

The gentlemen who will be testifying in a few moments have come many miles to tell me and to tell you that they have a very real problem with the power interruption charges that the Bureau is levying against them.

They have told me that promises were made to them, by Bureau personnel, that they would never have to pay such charges, and I believe them. For a number of years after their contracts were signed in 1952, no charges were levied at all, and beginning in 1976 the Bureau began assessing power interruption charges for the silt runs.

The irrigators have been paying these fees reluctantly, under protest, in hopes of resolving this problem through legislative means, but now the charges are becoming so great that the gentlemen tell me that their irrigation districts can no longer afford to pay the fees under any circumstances.

Clearly, something needs to be done to help these gentlemen resolve this problem, and it seems equally clear that a legislative response is desirable. Nobody benefits when the Government levies charges that people can't pay.

Mr. Chairman, I've been impressed by the sincerity and depth of conviction on the part of the irrigators. They come to you today, in good faith, seeking your help to gain relief from paying charges that they feel are being imposed on them contrary to longstanding

agreements, and I am aware of the fact that in our Government today we've lost a lot of credibility with the people of America by entering into agreements, and having longstanding understandings, and then reneging on those promises made by the Government. I think our 4-year farm contract that we have with the farmers of America is a good case in point with that type of demonstration.

I feel that they have some valid points to make. I think all parties should be consulted to solve this problem. I support the irrigators in their efforts to seek a resolution to this dispute in a fair and equitable manner, either through this bill or through any means acceptable to the parties.

I am glad that consideration of S. 1590 will facilitate this process. In closing, I'd like to thank you, Mr. Chairman, and the members of the subcommittee for setting aside time today because I, as all of us are aware of how precious time is, toward the close of the year, and your setting aside this time to receive testimony on this issue is very deeply appreciated, and I know that gentlemen representing the irrigation districts appreciate this opportunity also as I do.

Thank you, Mr. Chairman.

Senator NICKLES. Thank you very much, Senator Zorinsky. I see your colleague and my friend Senator Exon is also here, so Senator Exon, do you have some comments you wish to make?

STATEMENT OF HON. J. JAMES EXON, A U.S. SENATOR FROM THE STATE OF NEBRASKA

Senator EXON. Mr. Chairman, thank you very much. Senator Hecht, members of the—other members of the committee and staff. First, Mr. Chairman, I want to commend you for your usual good leadership in providing a forum here this morning to discuss the Senate's attention on a matter of vital importance to the Western States, and in particular the Western States and others, but most significantly, those States that make up the High Plains which overlie the Ogallala Aquifer.

Years from now the Nation will even more fully appreciate the fruit of our efforts here this morning to implement a Federal policy to encourage artificial ground water recharge.

Mr. Chairman, in addition to cosponsoring S. 1811, I introduced last spring, as you know, S. 997, which is similar to the measure before us today. Both measures would establish a Federal-State cooperative program for the actual testing and application for various artificial ground water recharge technologies.

The Commissioner of Reclamation is supportive of this legislation, and has stated that, in certain favorable situations, the depletion of ground water aquifers and basins could be alleviated to a significant degree by artificial recharge.

This program established by the legislation before us today integrates artificial ground water recharge into existing Federal water development programs.

Although artificial recharge is not a new concept, what is new is that it is not being viewed merely as an accidental or incidental benefit of reclamation projects, but rather as a significant component which we should look to for further benefits from the programs that are authorized.

This legislation before us today will raise ground water recharge from a status of unintended benefits to a benefit which is deliberate, which is designed and which has been decided. Artificial ground water recharge, as a goal and an end, will be a significant addition in our Nation's search for future water development and the best use that we can make of Federal funds in this whole area.

I applaud the chairman for his demonstrated foresight in recognizing artificial ground water recharge as pointing the way. I am using your words, Mr. Chairman, as "pointing the way to future water storage without the need for massive dams and ensuing costs, both economic and environmental."

Since 1902 when Teddy Roosevelt signed the Reclamation Act into law, Federal water policy has focused almost exclusively on the construction of massive surface water impoundment structures, ignoring nature's full hydrologic cycle. Past Federal policy has been looking to ground water recharge merely as incidental in its consideration from the seepage of surface reservoirs and canals.

As our Nation's budget deficit escalates upwards toward $200 billion and beyond, massive surface impoundment projects will become less and less affordable.

In 1903, such projects cost the Federal Government $30 million. Today, a similar project would cost $300 to $400 million. In 1903, we had a budget surplus and not a budget deficit. That deficit is pushing up interest rates in the private credit market as the Federal Government continues to borrow and borrow and borrow, so all of this seems to fit together.

Artificial ground water recharge is, as the chairman has aptly noted, less costly and may enable us to meet our future water development needs in the face of a continued rising of Federal deficit. It is more efficient as well, due to the tremendous reduction in evaporation loss which is incident to surface impoundment projects.

The legislation before us today takes the important first step toward integrating surface water practices with ground water resources. This measure will initiate a Federal program of purposeful ground water development.

In looking ahead, we must also consider ensuing management problems as well as ground water quality problems. I look forward to working with the chairman on these and other related matters as well.

I hope that the Senate will soon act on this legislation. The Bureau of Reclamation's regional director for the lower Missouri region in Denver recently informed me that he is already preparing to implement phase I of this legislation in anticipation of enactment this year.

This demonstrates the enthusiasm for developing—that is developing within the Bureau of Reclamation for artificial recharge which we should encourage and the Senate cannot act favorably too soon on this legislation.

Some concerns have been expressed that this measure would authorize interbasin transfers of water. I can certainly appreciate such concerns, however, it is not the intention of this bill to do so. Any clarifying language which would further underscore this in-

tention would not be objected to by this Senator if the committee feels that is necessary.

The technical aspects of artificial ground water recharge at least as far as proposals which have been reviewed, are very local in nature. These projects would involve the use of local surface water supplies to recharge a nearby aquifer through injection wells, spreading basins and percolation ponds. Actual testing of these methods, however, has been limited.

I envision this demonstration program to be limited to addressing the local water issues, and to be designed only to demonstrate technology.

In concluding my remarks on S. 1811, Mr. Chairman, let me again state my appreciation for your leadership and your cooperation with me and the many talks that we've had on this subject.

As the report of the Six State High Plains Ogallala Aquifer Study notes, future agriculture production will be drastically curtailed due to our depleting ground water resources. With over 40 percent of agricultural production dependent upon ground water supplies, it is imperative that we move forward with a definite plan to replenish our ground water resources.

Mr. Chairman, S. 1811 will be an important step in advancing artificial recharge of technology, and I urge its prompt consideration and hopefully favorable action to it by the entire Senate.

Now on another matter that my colleague, Senator Zorinsky had just spoken on, let me just take about two minutes of the committee's time.

The people that are here testifying on S. 1590 can speak well for themselves. Their sincerity will come through very loud and very clear to the members of this committee. This is another issue that I thank the chairman for his courtesy in allowing us to come in and discuss this today.

Resolution of the silt run controversy is of critical importance to the irrigators who rely upon water supplies from the North Platte project on the Nebraska and Wyoming borders.

Each year the irrigation districts in both States request a silt run from the Bureau, and the legislation before the committee, which I have cosponsored, would continue this practice for the benefit of the irrigators.

The North Platte project was one of the very first water development projects authorized under the Reclamation Act of 1902. It was not until 1976 that the Bureau began levying power interruption charges against the districts for the requested silt runs.

In previous years, the Bureau was, in fact, recognizing the long-standing practice of operating the Guernsey Reservoir without charge to flush out sediment deposits from the reservoir. These silt runs, of course, are useful to irrigation districts in reducing canal seepage and stabilization of the canal banks.

In recently assessing charges of the silt runs, the Bureau of Reclamation has been operating under a set of assumptions, and we all know what assumptions are when assumptions are put into practice by bureaucrats—based on assumptions by the Bureau and not law—certainly not on explicit contractual agreements, but assumptions about silt runs in this case.

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In addition, the annual power charges assessed by the Bureau have jumped from an average of about $20,000 a year during 1975 through 1982, to an estimated $137,000 for next year. This sudden escalation is due to a recent policy change in the Western Area Power Administration's marketing policies.

In all fairness, irrigators should not be held to a power marketing scheme which has changed substantially since the 1952 agreement.

Without a resolution of this unique problem the district will continue to be subjected to the changing assumptions of the Bureau on this matter.

The controversy surrounding the power interruption charges assessed by the district against the irrigators will remain unresolved to the detriment of the districts.

Representatives of the Nebraska irrigators are present here today to discuss this issue in greater detail for the benefit of the committee.

Mr. Dale Staman, president of the Pathfinder Irrigation District and two colleagues, are here to present the district's view on the need for legislation to address this matter.

Mr. Chairman, thank you for your attention, and I am at this time very pleased to present Mr. Dale Staman, Mr. Phil Hort and Mr. Al Hoyt, and they're all supporters of the bill. They're very knowledgeable. They're making no demands at all. They're simply saying are we being treated fairly. I think and hope that when the chairman and the others on the committee hear their case, they will agree and we'll be able to work out some type of constructive policy to correct it.

Thank you very much.

Senator NICKLES. Thank you very much, Senator Exon. We appreciate your leadership and also your cosponsorship of the bills in the Senate to move forward with the underground recharge.

I think it's very positive, and I would certainly compliment you on your statement and on your leadership in the Senate.

We've been joined by Senator Wallop who is a principal sponsor of Senate bill 1590.

Senator Wallop, did you have an opening comment that you wished to make?

Senator WALLOP. Mr. Chairman, I do. I have a somewhat more detailed one than the one which I wish to deliver, but if I may I'll just do an abbreviated version, and put the rest in the record.

Senator NICKLES. Certainly.

Senator WALLOP. Mr. Chairman——

Senator NICKLES. Thank you, Senator.

STATEMENT OF HON. MALCOLM WALLOP, A U.S. SENATOR FROM THE STATE OF WYOMING

Senator WALLOP. Mr. Chairman, I agree with the irrigation districts, and that is why I introduced S. 1590 that you're holding hearings on today, and I thank you for holding them. I know that my constituents and those across the border, Senator Exon and Congresswoman Smith are grateful to you, too, and we very much appreciate it.

In this unique instance of the Guernsey Dam and the North Platte, I really feel that the irrigation districts are entitled to a free silt run. Throughout the history of this project the water being delivered from the North Platte was silty in its nature.

Not only were the districts entitled to a certain quantity of water, but that constant quantity of water delivery could only be insured if at least a portion of the water delivered after the Guernsey and Glendo Dams were built was silty in nature so the canals and laterals could be lined and the carriage loss lessened.

When the North Platte project was built the irrigation districts never bargained to have to go back years later and line their canals because the Government would move forward with other storage projects that ultimately had a bad effect on the operation of the North Platte project, nor did they bargain to have to pay power interruption charges which the Bureau has now assessed at an estimated annual cost of $137,000.

What they did bargain for, those irrigators, when they sold their power interests to the United States at its request was the protection of their rights to project water. These rights included the silt run that the Bureau, itself, had initiated and carried out over a 25-year period.

Although no specific provisions—I would have to admit this—can be pointed to in any contract which specifically says the silt run will be provided cost-free, the record clearly shows that promises to this effect were made by Bureau officials to the North Platte District.

In good faith they sold their power interests in Guernsey to the Federal Government, and they're entitled to the benefit of their bargain. Equity would require nothing else, and the fact that the contract is silent as to the silt run does not abrogate the irrigators' right, nor does it divest the Government of its responsibility to provide to the North Platte Irrigation District silty waters. If, as the Bureau contends, the silt run is not a final solution to the problem, then perhaps we should be working together to find one.

However, the Government is responsible for paying part, if not all, the costs involved. Until then, S. 1590 requiring the silt run at no cost to the irrigation district is the most cost-effective means of reducing water losses through seepage in the canals in order to maintain the productivity of the agricultural region involved.

I don't believe, Mr. Chairman, that we can afford as a nation to continue to put all farmer irrigators in jeopardy. The total market value of the agricultural products which result from the North Platte project totaled $301,829,000. This is not just a statistic.

It is people. It is jobs. It is farms. It is local businesses. It is land and the heartbeat of a regional economy which is dependent upon North Platte River water. The continued productivity of the family farms in Wyoming and Nebraska and that part of it depend upon how this committee responds to this legislation today.

I trust, Mr. Chairman, that hearing the irrigators, some of whom are my constitutents, some Senator Exon's and Congresswoman Smith's, that you will agree and report this bill from your subcommittee for further action by the full Energy and Natural Resources Committee, and we trust thereafter the full Congress of the United States.

[The prepared statement of Senator Wallop follows:]

STATEMENT BY THE HONORABLE MALCOLM WALLOP,
A SENATOR FROM WYOMING, ON S. 1590

MR. CHAIRMAN, I AM PLEASED TO BE HERE TODAY TO TESTIFY IN BEHALF ON MY BILL S. 1590. THIS LEGISLATION, WHICH I INTRODUCED WITH SENATOR SIMPSON, REQUIRES THE SECRETARY OF THE INTERIOR TO PROVIDE THE NORTH PLATTE IRRIGATION DISTRICTS IN WYOMING AND NEBRASKA WITH SILT-LADEN WATERS FROM THE NORTH PLATTE PROJECT WITHOUT ANY SPECIAL CHARGE OR PAYMENT OF ANY KIND.

THE NORTH PLATTE PROJECT CONTAINS SOME 8,505 SQUARE MILES IN PLATTE AND GOSHEN COUNTIES IN WYOMING, AND SIOUX, SCOTTS BLUFF AND MORRILL COUNTIES IN NEBRASKA. THE PROJECT ITSELF WAS ONE OF THE FIRST CONSTRUCTED UNDER THE RECLAMATION ACT OF 1902. WATER FROM THE NORTH PLATTE RIVER IS STORED IN THE PROJECT'S UPSTREAM RESERVOIR OF PATHFINDER AND GUERNSEY. TOGETHER WITH THE WHALEN DIVERSION DAM IT DIVERTS WATER INTO A DISTRIBUTION SYSTEM OF 340 MILES OF MAIN CANALS AND 1,320 MILES OF LATERALS WHICH EXTEND 111 MILES ALONG THE NORTH PLATTE RIVER FROM GUERNSEY, WYOMING, TO BELOW BRIDGEPORT, NEBRASKA. ALTOGETHER SOME 226,323 ACRES OF LAND WITHIN THE PATHFINDER, GOSEHN, GERING FORT-LARAMIE AND NORTHPORT IRRIGATION DISTRICTS IN WYOMING AND NEBRASKA ARE IRRIGATED BY THE NORTH PLATTE. THESE WATERS RESULTED IN $301,829,000 IN AGRICULTURAL CROPS TO THE NATION'S ECONOMY IN 1978.

THE INTRODUCTION OF THIS LEGISLATION WAS NECESSITATED TO SOLVE A LONG STANDING CONTROVERSEY BETWEEN THE NORTH PLATTE IRRIGATION DISTRICTS AND THE BUREAU OF RECLAMATION. HISTORICALLY THE IRRIGATORS IN THE NORTH PLATTE PROJECT HAVE ALWAYS DEPENDED UPON THE NATURALLY SILTY WATERS OF THE NORTH PLATTE TO LINE THEIR CANALS IN ORDER TO REDUCE SEEPAGE. THE TERM "SILT RUN" REFERS TO THE BUREAU'S PAST PRACTICE OF REDUCING WATER RELEASES FROM THE GLENDA RESERVOIR TO LOWER THE LEVEL OF THE GUERNSEY RESERVOIR SO THAT DEPOSITED SEDIMENTS ARE FLUSHED FROM THE RESERVOIR INTO THE PROJECT'S CANAL SYSTEMS. THE SEDIMENTS BLANKET AND INFILTRATE

THE CANAL BOTTOM AND SIDES, THEREBY REDUCING SEEPAGE IN THE OPEN-EARTH AND OFTEN SANDY CHANNELS. THIS LESSENS UNDUE CARRIAGE LOSS DUE TO SEEPAGE AND ALLOWS MORE LAND TO BE IRRIGATED WITH LESS WATER.

PRIOR TO THE TIME THE GUERNSEY DAM WAS CONSTRUCTED IN 1927, THE SILT NEEDED BY THE IRRIGATORS TO LINE THEIR CANALS AND LATERALS WAS NATURALLY DEPOSITED BY THE RIVER. HOWEVER, WITH THE CONSTRUCTION OF THE GUERNSEY DAM AND RESERVOIR, MOST OF THE SILT FORMERLY CARRIED BY THE NORTH PLATTE WAS TRAPPED IN THE RESERVOIR. THE CLEARER WATER WHICH EMERGED FROM GUERNSEY SOON BEGAN TO SCOUR AND ERODE AWAY THE NATURAL SILT PROTECTIVE LINING DEPOSITED THERE BY THE RIVER. AS A RESULT, HUGE AMOUNTS OF WATER BEGAN TO BE LOST IN THE CANAL SYSTEM DUE TO SEEPAGE AND PERCOLATION. IT BECAME MORE AND MORE DIFFICULT FOR THE IRRIGATION DISTRICTS TO DELIVER THE AMOUNT OF WATER NECESSARY TO THE IRRIGATORS OWNING THE WATER RIGHTS IN THE NORTH PLATTE STORAGE PROJECT DURING THE PEAK OF THE IRRIGATION SEASON TO PROJECT LANDS.

TO COMPENSATE FOR THESE LOSSES IN DELIVERY CAPACITY, AND TO REDUCE THE LEVEL OF SEDIMENT IN THE GUERNSEY RESERVOIR, IN 1936 THE BUREAU OF RECLAMATION INITIATED THE PRACTICE OF LOWERING THE RESERVOIR TO RELEASE SILT SO THE CANAL SYSTEM COULD AGAIN BE SEALED. THIS PRACTICE CONTINUED AT THE INITIATIVE OF THE BUREAU ON AN INTERMITTENT BASIS WITHOUT CHARGE TO THE IRRIGATION DISTRICTS FOR A PERIOD OF 17 YEARS, EVEN THOUGH IN 1952 THE UNITED STATES HAD PURCHASED FROM THE NORTH PLATTE IRRIGATION DISTRICTS THEIR POWER INTERESTS IN THE 6 MW POWERPLANT AT THE GUERNSEY DAM IN EXCHANGE FOR A CREDIT TO THE DISTRICTS ON THEIR CONSTRUCTION OBLIGATION FOR THE NORTH PLATTE PROJECT.

WHEN GLENDO DAM WAS COMPLETED UPSTREAM FROM GUERNSEY IN 1958, IT BECAME APPARENT TO THE BUREAU THAT GLENDO DAM ACTED AS A FURTHER TRAP FOR THE SEDIMENT IN THE NORTH PLATTE. AS A RESULT CLEARER WATER WAS BEING RELEASED DOWNSTREAM TO THE IRRIGATION DISTRICTS THAN EVER BEFORE, AND CANAL SEEPAGE INCREASED.

TO COMPENSATE FOR THE PROBLEM, ON ITS OWN INITIATIVE THE BUREAU OF RECLAMATION BEGAN AN ANNUAL SILT RUN FROM THE GUERNSEY RESERVOIR DURING THE PEAK WATER USE PERIOD EVERY YEAR TO HOLD DOWN SEEPAGE LOSSES. THIS PRACTICE WAS CONTINUED BY THE BUREAU UNTIL 1976, AT NO COST TO THE IRRIGATION DISTRICTS.

HOWEVER, DURING THE YEARS BETWEEN 1958 AND 1976 IT BECAME INCREASINGLY DIFFICULT TO PROVIDE THE SILT RUN. MORE WATER HAD TO BE DRAWN DOWN FROM THE RESERVOIR IN ORDER TO FLUSH THE SEDIMENT OUT. DUE TO INADEQUATE HEAD FROM THE RESERVOIR DRAWDOWN AND THE INCREASED SEDIMENT LOADS DRAWN THROUGH THE POWERPLANT TURBINES, THE BUREAU CHANGED ITS POSITION REGARDING THE SILT RUN. IT INFORMED THE IRRIGATION DISTRICTS THE SILT RUN WOULD BE PROVIDED ONLY IF THE DISTRICTS PAID THE COSTS OF THE POWER INTERRUPTION CHARGES, AND SOUGHT A LONG TERM SOLUTION TO THEIR CANAL SEEPAGE PROBLEMS.

THE NORTH PLATTE IRRIGATION DISTRICTS DISAGREED WITH THE BUREAU, CLAIMING A LEGAL RIGHT TO THE CONTINUANCE OF THE SILT RUN. IT BASED THAT CLAIM ON PROVISIONS OF THE CONTRACTS NEGOTIATED BETWEEN THE INDIVIDUALS, IRRIGATION DISTRICTS AND THE BUREAU. THIS INCLUDES THE AMENDATORY CONTRACT FOR THE SALE OF THE GUERNSEY POWER PLANT, AND A LEGAL RIGHT TO THE QUALITY OF THE WATER IT HAD HISTORICALLY RECEIVED FROM THE NORTH PLATTE. THIS WATER WAS SILTY IN NATURE. THE PERTINENT PROVISION IN THE AMENDATORY CONTRACTS OF 1952 WHICH THE BUREAU FINALLY ACCEPTED STATED:

> "THE DISTRICT'S RIGHT TO PROJECT WATER FOR IRRIGATION USES SHALL BE PROTECTED, CONSERVED AND ADMINISTERED FIRST IN RIGHT AS AGAINST OTHER USES, AND SUCH RIGHT SHALL NOT BE IMPAIRED BY THE OPERATION BY THE UNITED STATES OF ANY POWER PRODUCING FACILITIES NOW OR HEREAFTER CONSTRUCTED. THE UNITED STATES WILL DISCHARGE FROM GUERNSEY RESERVOIR ONLY THAT WATER PRESCRIBED BY PRESENT AND FUTURE CONTRACTS FOR IRRIGATION USES, ENACTED, LAWS, COURT DETERMINATIONS, AND THAT WHICH WOULD OTHERWISE SPILL."

MR. CHAIRMAN, I AGREE WITH THE IRRIGATION DISTRICTS. THAT IS WHY I HAVE INTRODUCED THIS LEGISLATION WE ARE HOLDING HEARINGS ON TODAY. IN THIS UNIQUE INSTANCE OF GUERNSEY DAM AND THE NORTH PLATTE, I FEEL THE IRRIGATION DISTRICTS ARE ENTITLED TO A FREE SILT RUN. THROUGHOUT THE HISTORY OF THIS PROJECT THE WATER BEING DELIVERED FROM THE NORTH PLATTE WAS SILTY IN NATURE. NOT ONLY WERE THE DISTRICTS ENTITLED TO A CERTAIN QUANTITY OF WATER, BUT THAT CONSTANT QUANTITY OF WATER DELIVERY COULD ONLY BE ENSURED IF AT LEAST A PORTION OF THE WATER DELIVERED AFTER THE GUERNSEY AND GLENDO DAMS WERE BUILT WAS SILTY IN NATURE SO THE CANALS AND LATERALS COULD BE LINED AND CARRIAGE LOSS LESSENED.

WHEN THE NORTH PLATTE PROJECT WAS BUILT THE IRRIGATION DISTRICTS NEVER BARGAINED TO HAVE TO GO BACK YEARS LATER AND LINE THEIR CANALS BECAUSE THE GOVERNMENT WOULD MOVE FORWARD WITH OTHER STORAGE PROJECTS THAT ULTIMATELY HAD A MAL EFFECT ON THE OPERATION OF THE NORTH PLATTE PROJECT. NOR DID THEY BARGAIN TO HAVE TO PAY POWER INTERRUPTION CHARGES WHICH THE BUREAU HAS NOW ASSESSED AT AN ESTIMATED ANNUAL COST OF $137,000. WHAT THE IRRIGATORS BARGAINED FOR WHEN THEY SOLD THEIR POWER INTERESTS TO THE UNITED STATES AT ITS REQUEST WAS THE PROTECTION OF THEIR RIGHTS TO PROJECT WATER. THESE RIGHTS INCLUDED THE SILT RUN THAT THE BUREAU ITSELF HAD INITIATED AND CARRIED OUT OVER A 25 YEAR PERIOD.

ALTHOUGH NO SPECIFIC PROVISIONS CAN BE POINTED TO IN ANY CONTRACT WHICH SPECIFICALLY SAYS THE SILT RUN WILL BE PROVIDED COST FREE, THE RECORD CLEARLY SHOWS THAT PROMISES TO THIS EFFECT WERE MADE BY BUREAU OFFICIALS TO THE NORTH PLATTE DISTRICT. IN GOOD FAITH THEY SOLD THEIR POWER INTERESTS IN GUERNSEY TO THE FEDERAL GOVERNMENT, AND THEY ARE ENTITLED TO THE BENEFIT OF THEIR BARGAIN. EQUITY REQUIRES NOTHING LESS.

THE FACT THAT THE CONTRACT IS SILENT AS TO THE SILT RUN DOES NOT ABROGATE THE IRRIGATORS' RIGHT. NOR DOES IT DIVEST THE GOVERNMENT OF ITS RESPONSIBILITIES TO PROVIDE TO THE NORTH PLATTE IRRIGATION DISTRICT SILTY WATERS. IF, AS THE BUREAU CONTENDS, THE SILT RUN IS NOT A FINAL SOLUTION TO THE PROBLEM, THEN PERHAPS

WE SHOULD BE WORKING TOGETHER TO FIND ONE. HOWEVER, THE GOVERNMENT IS RESPONSIBLE FOR PAYING PART IF NOT ALL OF THE COSTS INVOLVED. UNTIL THEN, S. 1590 REQUIRING THE SILT RUN AT NO COST TO THE IRRIGATION DISTRICT IS THE MOST COST EFFECTIVE MEANS OF REDUCING WATER LOSSES THROUGH SEEPAGE IN THE CANALS IN ORDER TO MAINTAIN THE PRODUCTIVITY OF THE AGRICULTURAL REGION INVOLVED.

WE SIMPLY CANNOT AFFORD, AS A NATION, TO CONTINUE TO PUT FARMERS IRRIGATORS IN JEOPARDY. THE TOTAL MARKET VALUE OF ALL THE AGRICULTURAL PRODUCTS WHICH RESULT FROM THE NORTH PLATTE PROJECT TOTALED $301,829,000. THIS IS NOT JUST A STATISTIC. IT IS PEOPLE, JOBS, FARMS, LAND AND THE HEARTBEAT OF A REGIONAL ECONOMY DEPENDENT UPON NORTH PLATTE RIVER WATER. THE CONTINUED PRODUCTIVITY OF THE FAMILY FARMS IN WYOMING AND NEBRASKA DEPEND, IN PART, UPON HOW THIS COMMITTEE RESPONDS TO THIS LEGISLATION TODAY. I TRUST, MR. CHAIRMAN, THAT YOU WILL AGREE AND REPORT THIS BILL FROM YOUR SUBCOMMITTEE FOR FURTHER ACTION BY THE FULL ENERGY AND NATURAL RESOURCES COMMITTEE.

Senator NICKLES. Thank you very much, Senator Wallop. Our next two panelists that we're really pleased to have are Congressman Bereuter from Nebraska and Congresswoman Smith also from Nebraska.

So both of you can come up as I am trying to accommodate your schedules. We're going to ask the clerk to segregate the statements in regards to both bills.

Mrs. SMITH. Shall I proceed then?

Senator NICKLES. If you would, please.

Mrs. SMITH. Yes.

STATEMENT OF HON. VIRGINIA SMITH, A U.S. REPRESENTATIVE FROM THE STATE OF NEBRASKA

Mrs. Smith. I thank you, Mr. Chairman, Senator Nickles and Senator Wallop from Wyoming for making available another opportunity to express my continuing concern about the dispute between the Bureau of Reclamation and the 1625 water users in the vast North Platte irrigation project in Nebraska and Wyoming, over what has become known as the silt run issue.

I support your bill, Senate 1590 and its companion in the House, H.R. 3444, both of which exempt the project from power interruption charges as a condition for receiving silt-laden water from the Bureau's Guernsey Dam and Reservoir. My good friend and colleague, Congressman Richard Cheney and I are the chief cosponsors of the House bill.

I hope that your distinguished subcommittee will be able to compile a hearing on which you can build sufficient support in the Senate, this time around, for this legislation as I was able to provide in the House earlier this year.

I found it extremely embarrassing for me to find my friends on both sides of the aisle in the House fighting for the irrigators and for me tooth and toenail against the Senate leadership of both parties in the late and unlamented House-Senate conference committee over this same legislation, which I had added to H.R. 3069, the fiscal year 1983 supplemental appropriations bill.

In that battle, after testing many combinations in trying to win over the Senate conferees, it came down to this option: I could have insisted on the House language, forcing the conferees to take the matter back to each body as an issue in true disagreement and subject this legislation to an up and down vote in both the House and Senate, but given the Senate conferees' adamant opposition to this measure and without the support of even one voice on the Senate side supporting the irrigators and supporting me—not one single voice—I felt that such a vote risked almost certain defeat in the Senate.

Rejection of this legislation by a formal vote in either the Senate or the House would have clouded and prejudiced the future of any litigation that might be brought later, and these irrigators have made it clear that if this current effort to find a legislative remedy fails, they will consider seeking redress through the courts.

If we can reach general agreement for Senate support for this legislation, I have commitments of support from my House Appropriations Subcommittee on Energy and Water Development from

our subcommittee chairman, my good friend Mr. Bevill, if we wish to renew the battle over this silt-run legislation through use of the appropriations process.

These commitments mean that not only will my committee members support this legislation on the floor of the House, but also in the crucial Rules Committee, which would have to approve putting such legislation in any appropriations bill. I recognize full well, Senator Nickles, that this legislation clearly is the business of the authorizing committees, and I do not wish to seem to be infringing upon the jurisdiction of this distinguished subcommittee or its equally distinguished counterpart subcommittee in the House, on which Congressman Cheney so ably serves.

The only reason that I chose to use the appropriations process was because H.R. 3069 was being pushed through to quick enactment because it contained money to keep the food stamp program going without interruption. I felt that these irrigators deserved the most expeditious attention possible, hence my legislation was hooked on to H.R. 3069.

Having said all this, I still cling to the hope that through negotiations, Senate support will emerge for this bill as your subcommittee may draft it. I will not discuss the issues in dispute other than to state that to my satisfaction the irrigators have proved beyond any doubt that Bureau representatives made certain promises to deliver this silt-laden water to the water users without charge as requested by the users. Other promises were also made, and the irrigators took action on the strength of these promises, making commitments of money, of property and time in expectation that certain rights to silt runs, without charge, would continue indefinitely. The question is simply whether the Government ought to back up these promises with appropriate action. It's clear that the Bureau does not intend to keep the promises. I believe that because of the power-interruption charges apparently, which are increasing so sharply, some remedy needs to be found, whether it is legislative in court or out of court.

Senator Nickles, I deeply regret the adversarial nature of this situation between the Bureau, for which I have the utmost respect, and my constituents, for whom I also have the utmost respect, and whom I have a sworn duty to represent in the U.S. Congress.

I wish all concerned in this hearing the best of luck in this endeavor, and I continue to offer my assistance in every possible way. If the subcommittee has any questions, I will be happy to try to answer. However, these four irrigators have come 2,000 miles to testify, and I know they are ready to furnish the subcommittee with a wealth of information, data, and evidence.

Thank you very much.

Senator NICKLES. Thank you very much for your leadership, Congresswoman. We appreciate your bringing this to our attention, and also your efforts in the House as evidence of your continued insistence and persistence in trying to see this through.

We're also pleased to have with us Congressman Doug Bereuter, who has done, I think, an outstanding job. He has also visited with me at length on the underground water recharge bill, and I appreciate your assistance, and also the success that you have had in the

House. I appreciate your taking your time out of your busy schedule to give us your statements on the bill today.

STATEMENT OF HON. DOUG BEREUTER, A U.S. REPRESENTATIVE FROM THE STATE OF NEBRASKA

Mr. BEREUTER. Chairman Nickles, thank you for the kind words, and it's been mutually advantageous discussions that I think we've pursued in the past, and I am very pleased to be able to testify today in support of your bill, S. 1811, and a counterpart bill in the House, H.R. 71, which was passed by the House on June 20 of this year.

I took a very personal and rather direct role in the drafting of predecessor legislation in the 97th Congress, introduced late in the 97th Congress. The House Interior and Insular Affairs Committee, of which I was a member my first 4 years and also that year, held hearings very briefly here in Washington and also in San Antonio.

A new bill, H.R. 71, was introduced with myself, but since I've moved off the committee, all of the more senior members on both sides of the aisle on the Water and Power Subcommittee of Interior.

I want to commend the chairman, of course, and this panel for holding these hearings and recognizing the need to address the serious and growing ground water problems of the High Plains and Western States. I think these bills are a positive way of approaching the groundwater recharge problem, but also looking at it as an opportunity.

I hope that the committee and the Senate can move this bill out yet this year so that we can begin the research process established in the bill at the earliest possible time, and we've taken some steps through the appropriations process to facilitate that once this authorizing legislation is enacted.

I know that the chairman and members of this Senate subcommittee are well-versed in the problems of ground water, particularly in the high plains, but also throughout the West, and so I am not going to go through the details, the statistical data that I provided in my formal statement here today, but will concentrate only on a few other comments and hope that perhaps my full comments could be made a part of the record.

Senator NICKLES. They will be made a part of the record.

Mr. BEREUTER. Thank you, Mr. Chairman.

In some areas of the country abundant supplies of surplus water exists which could be utilized to recharge underground aquifers which are being depleted at ever-increasing rates.

While the Federal Government, the States and water-related agencies have studied the concept of using artificial ground water recharge to rejuvenate these declining water tables these studies have consisted of theoretical analyses of the concept, of computer modeling, of the limited data which is available and hypothetical suggestions as to its possible application. Very little concrete data exists.

In looking at the problems and potential for ground water recharge, I consulted several years ago with key staff on Nebraska's water conservation and survey division, which, I think, is among

the very most knowledgeable State agencies in the Nation, and these people had been advocating this approach for many years, and I said, let's get started on one.

We'll see if we can get it going, and they stepped back and said, wait a minute, you know, we've been saying this all the time, but frankly, we need some concrete examples—concrete is a bad word, but specific examples, and with only one exception now underway in our State on a Federal installation with the help of a natural resource district, which really tries to measure the kind of ground water recharge that is taking place under various temperature conditions, soil conditions and various contours of a recharge pit.

We have very little that we can really count upon for the demonstration of ground water recharge techniques, and, of course, there are many suggested techniques, so what is needed, I think, is the next logical step, actual construction of a number of research and demonstration projects quite varied in condition and in various soil types and conditions throughout the High Plains and West, so that we can actually observe the quantity the benefits of artificial ground water recharge.

In the event that this concept proves workable, as I believe it would, the empirical data developed as a result of these research efforts can be applied to the construction of new types of water storage and management projects that can more efficiently, less costly and less environmentally damaging ways benefit from this ground water recharge.

I think we're talking about separate ground water recharge projects, and we're also talking about the design of future and existing surface water projects to take maximum advantage of the supplementary ground water recharge.

Furthermore, ground water recharge, as I said, can be added to these existing projects.

Mr. Chairman, I am not going to go over the details of the act, but that's in my statement, since you are as familiar with them as I am, at least. The Bureau of Reclamation, particularly—ably led and speaking for it by the Commissioner have testified both in the 97th and the 98th in behalf of this legislation.

U.S. Geological Service and the Bureau of Reclamation, I think, are the two agencies in the Federal Government that have the most to offer, and I'm very pleased to find that within the Bureau of Reclamation, from top to bottom now, the enthusiasm does exist, and, in fact, is growing for this concept.

Senator Exon briefly made mention a possible concern about interbasin transfer. That was discussed by members of the Interior Committee, both in the previous Congress and during the 98th. That certainly is not an intention. If there is language that you would feel more comfortable in adding, of course, I'd welcome that. Those of us from Nebraska have recently been made very much aware of this concern through the *Sporhase* case and the *El Paso* case, the two leading cases on this subject, and we have just this week dealt with the pipeline on the House floor, so anything you might want to add in that respect would, of course, be welcome—I think unnecessary, but welcome.

The Commissioner of Reclamation then did testify in behalf of the bill, but he made recommendations for its modification. I want

to note that the House Committee on Interior and Insular Affairs have carefully considered the recommendations of the Commissioner.

I was asked along with the ranking member, Mr. Cheney of Wyoming and the chairman of the Water and Power Subcommittee, Mr. Kazen of Texas, to take a look at those recommendations, and they find—and they found their way into the bill through amendments by the committee, which were adopted then in H.R. 71.

Some of those recommendations were very helpful. We accepted them. Others, I would say, we felt would substantially weaken the bill, or the process, and make it less palatable to the States, and I'd like to particularly address one of them.

I would respectfully and particularly object, as did the committee to the Bureau's suggestion, that the phase II of the bill, the actual and construction and operation of these projects, be made discretionary.

I would ask of what value would another study be if there is no action taken on these recommendations. Now I understand that it is the judgment, as expressed by the Commissioner, that we would move to phase II. Simply want this opportunity to come back to the committees, but I would ask the gentlemen who are members of this committee whether we really would find it advantageous to go through the political process twice.

Perhaps having various interests balanced off of each other, and, of course, the big factor would be the delay of seeking authorization legislation, so I think it's appropriate to combine and to authorize phase I and phase II, and that is the judgment of the House.

I believe we should move forward with the bill substantially as it is, and I would appreciate support from members of the subcommittee for that objective. I do agree with H.R. 71 in its entirety, as reported from the House, with only one possible exception, and that is this.

After the nine other Western States were added to the bill, it seemed to me, and it's been stipulated by the chairman, Mr. Udall, that perhaps the authorizing legislation, the authorizing amount, the dollar amount for phase II is inadequate, so it would be my suggestion that we really ought to be looking at $30 million authorization rather than a $20, and today I understand the Commissioner will suggest that the authorizing amount for phase I, $500,000 is inadequate, and I think he makes the case well.

He is suggesting, as I understand it, $1 million authorization limit on phase I, and I certainly support him in that respect.

In concluding, Mr. Chairman, I believe that this bill has significant long-range implications for the future water resource management, has—of any legislation really that we've considered since perhaps the original 1902 Reclamation Act.

Ground water recharge is a relatively new concept. At least it is new as far as its actual application in a concerted fashion, in an intentional fashion. It is one that I believe will excite and please all of us who are concerned about a continuing water supply for the high Plains and Western States, and it's a concept that has potential to sustain and to even breathe new life into various areas of the arid and semiarid West.

The time has come for a standard conjunctive approach to water development projects. This bill offers the vehicle to further explore what I believe to be the most promising course upon which to embark, and I urge you to move forward on this bill that you've introduced, and which we've passed the House, which will begin that new and innovative approach to water management for the years ahead.

Again, Mr. Chairman, thank you for your leadership, and thank you for inviting us to testify today.

[The prepared statement of Mr. Bereuter follows:]

TESTIMONY OF
HONORABLE DOUG BEREUTER
BEFORE THE
SUBCOMMITTEE ON WATER AND POWER
OF THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
SEPTEMBER 29, 1983

I AM EXTREMELY PLEASED TO TESTIFY IN SUPPORT OF THE GROUNDWATER RECHARGE DEMONSTRATION PROJECT APPROACH WHICH WAS ALSO FOUND IN LEGISLATION THIS MEMBER INITIATED IN THE LAST CONGRESS AND WHICH IS INCLUDED IN H.R. 71, DRAFTED BY THIS MEMBER AND PASSED BY THE HOUSE ON JUNE 20, 1983. I ALSO WANT TO COMMEND THIS PANEL FOR HOLDING THESE HEARINGS AND FOR RECOGNIZING THE NEED TO ADDRESS THE SERIOUS AND GROWING GROUNDWATER PROBLEMS OF THE HIGH PLAINS AND WESTERN STATES. I HOPE THAT THE COMMITTEE AND THE SENATE CAN MOVE THIS BILL OUT YET THIS YEAR, SO THAT WE CAN BEGIN THE RESEARCH PROCESS ESTABLISHED IN THE BILL AT THE EARLIEST POSSIBLE TIME.

MR. CHAIRMAN, I KNOW THAT THIS PANEL IS WELL-VERSED IN THE PROBLEMS OF GROUNDWATER AVAILABILITY AND USE. WE HAVE ALL HEARD THE FACTS ON THE DEPLETION OF GROUNDWATER RESOURCES THROUGHOUT THE ARID AND SEMI-ARID STATES OF THE WESTERN UNITED STATES. PARTICULARLY IN THE HIGH PLAINS STATES OF SOUTH DAKOTA, WYOMING, NEBRASKA, COLORADO, KANSAS, OKLAHOMA, TEXAS AND NEW MEXICO, THE USE OF GROUNDWATER FROM THE OGALLALA AQUIFER FOR IRRIGATION, MUNICIPAL AND INDUSTRIAL PURPOSES HAS INCREASED MARKEDLY IN THE YEARS SINCE THE END OF WORLD WAR II. FOR EXAMPLE, TOTAL IRRIGATED ACREAGE IN THE HIGH PLAINS STATES

INCREASED FROM ABOUT 3.5 MILLION ACRES IN 1950 TO MORE THAN 14.0 MILLION ACRES IN 1980.

AS IRRIGATED ACREAGE EXPANDED, WATER USE INCREASED. LESS THAN 7 MILLION ACRE-FEET OF WATER WAS WITHDRAWN FROM THE OGALLALA IN 1950. BY 1980, MORE THAN 21 MILLION ACRE-FEET WERE PUMPED ANNUALLY EVEN THOUGH, OVER THE SAME PERIOD, IMPROVED IRRIGATION EFFICIENCIES HAD REDUCED PER ACRE APPLICATION OF WATER BY ABOUT 30 PERCENT, FROM 2 ACRE-FEET PER ACRE TO ABOUT 1.4 ACRE-FEET PER ACRE.

FEED GRAIN CROP PRODUCTION INCREASED FROM 150 MILLION BUSHELS IN 1950 TO 1.25 BILLION BUSHELS IN 1980. THE HIGH PLAINS REGION PRODUCED ABOUT 38 PERCENT OF THE FED BEEF IN THE NATION BY 1980. OF COURSE, A COMPLEX INFRASTRUCTURE OF AGRICULTURAL SUPPLY BUSINESSES, INCLUDING FERTILIZERS, FARM EQUIPMENT, AND AGRICULTURAL MARKETING, STORAGE, AND PROCESSING, HAS BEEN DEVELOPED TO SUPPORT THE INDUSTRY.

MR. CHAIRMAN, WE ALL RECOGNIZE THAT THE GREAT GROWTH IN PRODUCTIVITY IN THIS IMPORTANT REGION HAS COME ABOUT AS A DIRECT RESULT OF THE WATER RESOURCES WHICH ARE AVAILABLE IN THE AREA. ALTHOUGH THE AREA'S AQUIFERS RECEIVE SOME RECHARGE EACH YEAR, THE QUANTITIES OF GROUND-WATER THAT ARE WITHDRAWN AND CONSUMED FAR EXCEED THE QUANTITIES BEING REPLACED. THE DECLINING SUPPLIES, AND PENDING EXHAUSTION IN SOME AREAS, OF THIS MOST IMPORTANT RESOURCE IS EXPECTED TO RESULT IN SEVERE ECONOMIC CONSEQUENCES AT THE LOCAL, REGIONAL AND NATIONAL LEVELS. IN TERMS OF AGRICULTURAL PRACTICES ALONE, IT IS ESTIMATED THAT MORE THAN 5 MILLION ACRES IN THE HIGH PLAINS WILL REVERT TO DRYLAND FARMING PRACTICES OR RANGELAND BY THE YEAR 2020.

THE PROBLEM OF GROUNDWATER DEPLETION GOES EVEN BEYOND THE HIGH PLAINS REGION. THROUGHOUT THE WEST, WATER SHORTAGES HAVE HAD SEVERE ADVERSE IMPACTS UPON THOSE WHO DEPEND UPON ADEQUATE WATER FOR AGRICULTURE, MUNICIPAL AND INDUSTRIAL, AND DOMESTIC USES. THE CHRONIC WATER SHORTAGES WHICH THE STATE OF CALIFORNIA AND OTHER WESTERN STATES HAVE SUFFERED, AND WHICH HAVE BECOME EVEN MORE SERIOUS IN RECENT YEARS, SERVE TO FURTHER EMPHASIZE THE NEED FOR A NEW APPROACH TO WATER MANAGEMENT AND DEVELOPMENT.

IN SOME AREAS OF THE COUNTRY, ABUNDANT SUPPLIES OF SURFACE WATER EXIST WHICH COULD BE UTILIZED TO RECHARGE UNDERGROUND AQUIFERS WHICH ARE BEING DEPLETED AT EVER-INCREASING RATES. WHILE THE FEDERAL GOVERNMENT, THE STATES, AND OTHER WATER-RELATED AGENCIES HAVE STUDIED THE CONCEPT OF USING ARTIFICIAL GROUNDWATER RECHARGE TO REJUVENATE THESE DECLINING WATER TABLES, THESE STUDIES HAVE CONSISTED OF THEORETICAL ANALYSES OF THE CONCEPT, COMPUTER MODELING OF THE LIMITED DATA WHICH IS AVAILABLE, AND HYPOTHETICAL SUGGESTIONS AS TO ITS POSSIBLE APPLICATION. VERY LITTLE CONCRETE DATA EXISTS. WHAT IS NEEDED AS THE NEXT LOGICAL STEP IS THE ACTUAL CONSTRUCTION OF A NUMBER OF RESEARCH AND DEMONSTRATION PROJECTS, SO THAT WE CAN ACTUALLY OBSERVE AND QUANTIFY THE BENEFITS OF ARTIFICIAL GROUNDWATER RECHARGE. IN THE EVENT THAT THIS CONCEPT PROVES WORKABLE, AS I BELIEVE IT WOULD, THE EMPIRICAL DATA DEVELOPED AS A RESULT OF THIS RESEARCH EFFORT CAN THEN BE APPLIED TO THE CONSTRUCTION OF NEW TYPES OF WATER STORAGE AND MANAGEMENT PROJECTS WHICH WOULD BE MUCH MORE EFFICIENT, LESS COSTLY, AND LESS ENVIRONMENTALLY DAMAGING. FURTHERMORE, ADDITIONAL GROUNDWATER

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RECHARGE FEATURES CAN ALSO BE ADDED TO EXISTING PROJECTS, MAKING THEM MORE EFFICIENT AND COST-EFFECTIVE.

MR. CHAIRMAN, I BELIEVE THAT FURTHER RESEARCH AND EXPLORATION OF THIS CONCEPT COULD RESULT IN A FEASIBLE AND COST-EFFECTIVE ALTERNATIVE TO THE ECONOMIC DISASTER WHICH WILL CERTAINLY ACCOMPANY THE DEPLETION OF OUR GROUNDWATER SUPPLIES. IF WE DO NOTHING TO REVERSE THE TREND OF DECLINING WATER TABLES, WHOLE AREAS OF THE COUNTRY WILL FACE DRASTICALLY ALTERED CONDITIONS. THE IMPACT OF INADEQUATE WATER SUPPLIES UPON AGRICULTURAL PRODUCTION, INDUSTRIAL DEVELOPMENT, AND ENERGY PRODUCTION WILL BE STAGGERING. ECONOMIC DEVELOPMENT WILL COME TO A STANDSTILL WITHOUT WATER.

THE MODEST PROGRAM WHICH WOULD BE AUTHORIZED IN THIS BILL WOULD TARGET THOSE AREAS OF THE WORST DECLINES AND THE BEST POSSIBILITY FOR A SUCCESSFUL RECHARGE PROJECT FOR FURTHER TESTING OF THE CONCEPT. THE BILL WOULD AUTHORIZE A MINIMUM OF 21 ARTIFICIAL GROUNDWATER RECHARGE DEMONSTRATION PROJECTS THROUGHOUT THE ARID AND SEMI-ARID STATES OF THE MIDWEST AND WEST.

A 24-MONTH PLANNING PHASE WOULD BE FOLLOWED BY A 5-YEAR DEMONSTRATION PHASE, WITH POSITIVE FINDINGS AND RECOMMENDATIONS FOR CONSTRUCTION OF FULL-SCALE PROJECTS IF THE CONCEPT PROVES FEASIBLE.

THE BILL ALSO MANDATES THE DEVELOPMENT OF A METHOD OF ASSESSING BENEFITS AND COSTS OF GROUNDWATER RECHARGE TO PROJECT BENEFICIARIES. IT PROVIDES FOR COOPERATION BETWEEN THE STATES AND THE FEDERAL GOVERNMENT IN DEVELOPING MEANINGFUL RESEARCH AND DEMONSTRATION PROJECTS. IT CONTAINS ADEQUATE PROTECTION FOR THE WATER RIGHTS AND THE EXISTING

WATER COMPACTS OF THE INDIVIDUAL STATES. IT INCLUDES AN EXTENSIVE REPORTING AND MONITORING REQUIREMENT WHICH WILL FACILITATE THE ACTIVE OVERSIGHT OF THESE PROJECTS BY THE APPROPRIATE HOUSE AND SENATE COMMITTEES.

THE BILL WHICH IS BEFORE THE SUBCOMMITTEE ENJOYS WIDESPREAD SUPPORT FROM THOSE WHO ARE CONCERNED ABOUT WATER DEVELOPMENT. THE COMMISSIONER OF THE BUREAU OF RECLAMATION HAS TWICE TESTIFIED IN SUPPORT OF THE BILL IN THE HOUSE, ALTHOUGH HE HAS MADE SOME RECOMMENDATIONS FOR AMENDMENTS TO THE BILL. MR. CHAIRMAN, I WANT TO NOTE THAT I AND THE HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS HAVE CAREFULLY CONSIDERED THE RECOMMENDATIONS OF THE COMMISSIONER. SOME OF THE CHANGES HAVE BEEN INCORPORATED IN THE LEGISLATION; THOSE WHICH WERE REJECTED, WE BELIEVED, WOULD SUBSTANTIALLY WEAKEN THE BILL AND MAKE IT UNPALATABLE TO THE STATES.

I WOULD PARTICULARLY OBJECT TO THE COMMISSIONER'S SUGGESTION THAT PHASE II OF THE BILL, THE ACTUAL CONSTRUCTION AND OPERATION OF THESE PROJECTS, BE MADE DISCRETIONARY. OF WHAT VALUE WOULD ANOTHER STUDY BE IF THERE IS NO ACTION TAKEN ON THOSE RECOMMENDATIONS? CAN WE AFFORD THE DELAY IF IT BECOMES NECESSARY TO COME BACK BEFORE THE CONGRESS TO MANDATE A CONSTRUCTION PHASE WHICH WE ALL AGREE IS NECESSARY IF WE ARE TO MAKE ANY MEANINGFUL CONTRIBUTION IN THIS FIELD? I BELIEVE WE SHOULD MOVE FORWARD WITH THE BILL SUBSTANTIALLY AS IS, AND I WOULD APPRECIATE THE SUPPORT OF THE MEMBERS OF THE SUBCOMMITTEE FOR THAT OBJECTIVE.

IN ADDITION TO THE QUALIFIED SUPPORT OF THE COMMISSIONER OF RECLAMATION, I NOTE THE SUPPORT OF ENVIRONMENTAL GROUPS SUCH AS THE NATIONAL WILDLIFE FEDERATION FOR THIS APPROACH. THAT BROAD BASE OF SUPPORT IS UNUSUAL, AS I'M SURE THE SUBCOMMITTEE WILL REALIZE.

MR. CHAIRMAN, I BELIEVE THAT THIS BILL HAS THE MOST SIGNIFICANT LONG-RANGE IMPLICATIONS FOR THE FUTURE OF WATER RESOURCES MANAGEMENT OF ANY WATER LEGISLATION IN MANY YEARS, PERHAPS SINCE THE ORIGINAL 1902 RECLAMATION ACT. GROUNDWATER RECHARGE IS A RELATIVELY NEW CONCEPT -- AT LEAST NEW IN ACTUAL APPLICATION. IT IS ONE WHICH I BELIEVE WILL EXCITE AND PLEASE ALL OF US WHO ARE CONCERNED ABOUT A CONTINUING SUPPLY OF WATER IN THE HIGH PLAINS AND WESTERN STATES. IT IS A CONCEPT THAT HAS THE POTENTIAL TO SUSTAIN AND EVEN BREATHE NEW LIFE INTO VARIOUS AREAS OF THE ARID AND SEMI-ARID WEST. THE TIME HAS COME FOR AN EXPANDED, CONJUNCTIVE APPROACH TO WATER DEVELOPMENT PROJECTS. THIS BILL OFFERS THE VEHICLE TO FURTHER EXPLORE WHAT I BELIEVE TO BE A MOST PROMISING COURSE UPON WHICH TO EMBARK, AND I URGE YOU TO MOVE FORWARD ON THIS BILL WHICH WILL BEGIN THAT NEW AND INNOVATIVE APPROACH TO WATER MANAGEMENT FOR THE YEARS AHEAD.

Senator NICKLES. Congressman Bereuter, we appreciate your statement, and also for the leadership that you've provided. I think the fact that you have been able to get it passed through the House is evidence of the work you've done on your side, and now we have to do our work on our side. I appreciate the leadership that you've given. Congresswoman Smith, thank you also for your leadership on the Guernsey project.

Thank you both very much.

Our next panelist will be the Commissioner of the Bureau of Reclamation, Commissioner Broadbent.

Commissioner, welcome, as always. I see you're prepared to go on either or both bills as usual, so if you would, we're going to try to keep our comments, if possible, segregated. First, on the water recharge bill and then on S. 1590. So if you'd start with S. 1811 and H.R. 71, I would appreciate it.

STATEMENT OF HON. ROBERT N. BROADBENT, COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR, ON S. 1811

Commissioner BROADBENT. Mr. Chairman, again it's the pleasure of the administration to be able to appear before your committee today, and to have the opportunity to testify on S. 1811 and also on S. 1590.

I think the Bureau particularly looks forward to the testimony that we might give on S. 1811. I think, as has been expressed by many people, that we feel an interest in all areas where there is a shortage of water and water supplies.

Many of the reclamation States, especially in the high Plains area, are experiencing serious ground water overdraft problems. While conjunctive use, conservation and management of existing ground water supplies are most important, one of the tools available to policymakers in areas faced with declining water tables is artificial ground water recharge.

Artificial ground water recharge is not a new idea. Although the technical aspects of artificial recharge through injection wells, percolation pounds, spreading basins and other methods have been extensively investigated, many operational difficulties and economic limitations have been documented.

However, enactment of S. 1811 with our proposed changes would give us the opportunity to investigate the application of various ground water recharge technologies in reclamation States.

We believe that in certain favorable situations the depletion of ground water aquifers and basins could be alleviated to a significant degree by artificial recharge.

We support the enactment of S. 1811 if it is amended to include our recommended changes. Our recommended changes are included on the attached marked up bill, which I have submitted for the record, Mr. Chairman.

Senator NICKLES. Thank you.

Commissioner BROADBENT. The changes we propose in S. 1811, are necessary for clarifying the bill's purpose and making it more workable. In the Bureau of Reclamation and the Geological Survey, we have the technical expertise that is required to plan and

manage the investigation program mandated by the bill. The bill would provide a highly desirable opportunity and a challenge to demonstrate our leadership and technical capability in the field of ground water management.

We recommend that the provisions dealing with phase II be deleted. We cannot support authorization of a phase II demonstration program until feasibility studies have been completed and reviewed by the executive branch. Any recommendations to the Congress for construction authority for demonstration projects would include appropriate cost-sharing provisions. We recommend the authorization of appropriation of funds for phase I in section 5 be increased to $1 million. The current amount of $500,000 spent at $250,000 annually for 2 years of phase I, would provide only $11,900 per year for study of each of the 21 sites.

This amount would not cover the cost of data accumulation, meetings, and salaries for the kind of study we believe is envisioned. It is our view that the Federal funds expended under phase I of S. 1811 would be nonreimbursable.

Mr. Chairman, that concludes my statement, and I would be happy to answer any questions.

[The prepared statement of Commissioner Broadbent on S. 1811 follows:]

STATEMENT OF
ROBERT N. BROADBENT
COMMISSIONER, BUREAU OF RECLAMATION
DEPARTMENT OF THE INTERIOR

BEFORE THE SUBCOMMITTEE ON WATER AND POWER
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
ON S. 1811, A BILL TO AUTHORIZE AND
DIRECT THE SECRETARY OF THE INTERIOR
TO ENGAGE IN A SPECIAL STUDY OF THE
POTENTIAL FOR GROUNDWATER RECHARGE
IN THE HIGH PLAINS STATES, AND FOR
OTHER PURPOSES

September 29, 1983

Mr. Chairman and members of the committee, it is a pleasure to be here today to discuss S. 1811, which would authorize and direct the Secretary of the Interior to engage in a two-phase program on the potential for ground-water recharge in the High Plains States and other Reclamation Act States.

Many of the Reclamation States, especially in the High Plains area, are experiencing serious ground-water overdraft problems. While conjunctive use, conservation, and management of existing ground-water supplies are most important, one of the tools available to policy makers in areas faced with declining water tables is artificial ground-water recharge.

Artificial ground-water recharge is not a new idea. Although the technical aspects of artificial recharge, through injection wells, percolation ponds, spreading basins, and other methods, have been extensively investigated, many operational difficulties and economic limitations have been documented.

However, enactment of S.1811 with our proposed changes would give us the opportunity to investigate the application of the various ground-water recharge technologies in the Reclamation States. We believe that in certain favorable situations the depletion of ground-water aquifers and basins could be alleviated to a significant degree by artificial recharge.

We support enactment of S. 1811 only if it is amended to include our recommended amendment. Our recommended changes are included on the attached marked-up copy of the bill. The changes in S. 1811 we propose are necessary for clarifying the bill's purposes and making it more workable.

In the Bureau of Reclamation and the Geological Survey, we have the technical expertise that is required to plan and manage the investigation program mandated by the bill. The bill would provide a highly desirable opportunity and a challenge to demonstrate our leadership and technical capability in the field of ground-water management.

We recommend that the provisions dealing with Phase II be deleted. We cannot support authorization of a Phase II demonstration program until feasibility studies have been completed and reviewed by the Executive Branch. Any recommendations to the Congress for construction authority for demonstration projects would include appropriate cost-sharing provisions.

We recommend that the authorization of appropriation of funds for Phase I in Section 5 be increased to $1,000,000. The current amount of $500,000, spent at $250,000 annually for the 2 years of Phase I, would provide only $11,900 per year for study of each of the 21 sites. This amount would not cover the cost of data accumulation, meetings, and salaries for the kind of study we believe is envisioned. It is our view that the Federal funds expended under Phase I of S. 1811 would be nonreimbursable.

Mr. Chairman, that concludes my statement on S. 1811. I would be happy to answer any questions at this time.

Attachment

II

98TH CONGRESS
1ST SESSION

S. 1811

To authorize and direct the Secretary of the Interior to engage in a special study of the potential for groundwater recharge in the High Plains States, and for other purposes.

Extension - HR 71

IN THE SENATE OF THE UNITED STATES

AUGUST 4 (legislative day, AUGUST 1), 1983

Mr. NICKLES (for himself, Mr. EXON, and Mr. ZORINSKY) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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A BILL

To authorize and direct the Secretary of the Interior to engage in a special study of the potential for groundwater recharge in the High Plains States, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "High Plains States Groundwater Demonstration Program Act of 1983".

SEC. 2. The Secretary of the Interior (hereinafter referred to as the "Secretary"), acting through the Bureau of Reclamation (hereinafter referred to as the "Bureau"), shall, in two phases, conduct an investigation of ~~and establish~~ demonstration projects for groundwater recharge of aquifers in

the States of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (such States to be hereinafter referred to as the "High Plains States") and in the other States referred to in section 1 of the Reclamation Act of 1902 (hereinafter referred to as "other Reclamation Act States"), as provided by this Act. The Bureau shall consult with the United States Geological Survey and other appropriate agencies and departments of the United States and of the High Plains States and other Reclamation Act States in order to carry out this Act.

SEC. 3. (a) ~~During phase I,~~ the Bureau, in consultation with the High Plains States and other Reclamation Act States and other appropriate departments and agencies of the United States, including the United States Geological Survey, shall develop a detailed plan on the feasibility of demonstration projects the purpose of which is to determine whether various recharge technologies may be applied to diverse geologic and hydrologic conditions represented in the High Plains States and other Reclamation Act States. In the preparation and development of such plan, the Bureau shall make maximum use of data, planning studies and other technical resources and assistance available from State and local entities: *Provided*, That contributions of such technical resources and assistance may be counted as part of the inkind services or other State contribution, but shall otherwise be provided

without compensation to the State or local entity. ~~This plan~~ This plan shall be developed through examination of not less than a total of ~~shall contain the selection of not less than a total of twelve~~ twelve potential recharge sites in the High ~~demonstration project sites in High Plains States and not less~~ Plains and not more than a total of nine potential recharge ~~than a total of nine demonstration project sites in other Rec~~ sites in the other Reclamation Act States. The selection of ~~lamation Act States. Demonstration project sites shall be~~ potential demonstration project sites shall be based on consideration ~~confined to areas having a declining water table, an available~~ of local groundwater depletion, availability of recharge water ~~surface water supply, and a high probability of physical~~, supplies, and other technical and economic factors affecting ~~chemical, and economic feasibility for recharge of the ground~~ the feasibility of groundwater recharge operations. ~~water reservoir~~. The plan shall provide for demonstration of the application of recharge technology and the selection of water sources, determination of necessary physical works and the operation of water ~~replacement~~ recharge systems, formulation of a monitoring program, identification of any economic, legal, intergovernmental, and environmental issues and projection of planning problems associated with such systems, and recommendation of legislative and administrative actions as may be necessary to carry out ~~phase II~~. a demonstration program.

(b) ~~During phase I~~ the Bureau is authorized ~~and directed~~ to recommend demonstration projects to be designed, constructed, and operated during ~~phase II~~. a demonstration program.

~~(c) Within six months after the enactment of an appropriation Act to carry out phase I, the Secretary shall make a preliminary selection of projects to receive further planning and development and shall initiate such further planning and development for those selected projects.~~

(c)
~~(d)~~ Within twenty-four months after the date of enactment of an appropriation Act to carry out ~~phase I~~ the purposes of this Act, the Secretary shall transmit a report to Congress containing the recommendations made pursuant to subsection (b) and a detailed statement of his findings and conclusions.

~~SEC. 4. (a) During phase II, and subject to State water laws and interstate water compacts, the Bureau is authorized and directed to design, construct, and operate demonstration projects in the High Plains States and other Reclamation Act States to recharge groundwater systems as recommended in the report referred to in section 4(c).~~

~~(b) During phase II the Secretary, acting through the Bureau, shall contract with the various High Plains States and other Reclamation Act States to conduct a study to identify and evaluate alternative means by which the costs of groundwater recharge projects could be allocated among the beneficiaries of the projects within the respective states and identify and evaluate the economic feasibility of and the legal authority for utilizing groundwater recharge in water resource development projects.~~

~~(c)(1) Within twelve months after the initiation of phase II, and at annual intervals thereafter, the Secretary shall submit interim reports to Congress. Each report shall contain a detailed statement of his findings and progress respecting the design, construction, and operation of the demonstration~~

~~projects referred to in subsection (a) and the study referred to in subsection (b).~~

~~(2) Within five years after the initiation of phase II, the Secretary shall submit a final report to Congress. The final report shall contain~~

~~(A) a detailed evaluation of the demonstration projects referred to in subsection (a);~~

~~(B) the results of the studies referred to in subsection (b);~~

~~(C) specific recommendations regarding the location, scope, and feasibility of operational ground water recharge projects to be constructed and maintained by the Bureau; and~~

~~(D) an evaluation of the feasibility of integrating these groundwater recharge projects into existing reclamation projects.~~

SEC. ~~5~~ 4. There is authorized to be appropriated $500,000 for fiscal years beginning after September 30, 1983, to carry out the purposes of this Act ~~phase I~~. Amounts shall be made available pursuant to the authorization contained in this section in a single sum for all potential demonstration project sites, and it shall be within the discretion of the Secretary to apportion such sum among such sites.

~~SEC. 6. There is authorized to be appropriated for fiscal years beginning after September 30, 1983, $20,000,000 (Oc-~~

~~tober 1983 price levels) to carry out phase II. Amounts shall be made available pursuant to the authorization contained in this section in a single sum for all demonstration project sites, and it shall be within the discretion of the Secretary to apportion such sum among such sites.~~

~~SEC. 7. The funds authorized to be appropriated pursuant to section 6 of this Act shall match on a four to one basis funds made available by the States, their political subdivisions, or other non Federal entities to meet the cost of phase II: *Provided*, That, inkind services or other contributions by the States, their political subdivisions, or other non Federal entities shall be considered in the determination of the matching non Federal share. The Secretary is authorized to enter into memoranda of agreement with any appropriate agencies or departments of the High Plains States and other Reclamation Act States to share the costs of phase II.~~

SEC. ~~8~~ 5. Any new spending authority described in subsection (c)(2) (A) or (B) of section 401 of the Congressional Budget Act of 1974 which is provided under this Act (or under any amendment made by this Act) shall be effective for any fiscal year only to such extent or in such amounts as are provided in advance in appropriation Acts.

Senator NICKLES. Commissioner, so you want all reference to phase II deleted or some discretion?

Commissioner BROADBENT. Well, I think it's the feeling of the administration that until feasibility studies are completed on these 21 sites that it would be premature to ask for demonstration programs. If the sites prove to be feasible then we would, of course, be looking forward to testifying on authorization or authorizing legislation for those demonstration sites.

Senator NICKLES. Congressman Bereuter made, I think, a good comment. We're looking at about $20 million, possibly that should or should not be increased if we're talking about that number of sites. But we both know the difficulties that can be involved and the time that can be involved in following through the legislative channels to get those studies implemented, the studies as you and I are aware. You're going to come back with some studies, and you're going to say: Yes; the underground water tables are falling. They need to be recharged, and here are some techniques or technologies that we might use.

I think we could tell you that right now. I would like to see some positive action taken to see if we can't demonstrate the capabilities to be able to recharge these aquifers in an economical and feasible way without getting bogged down too much with bureaucracy in leadtime before we get started.

Commissioner BROADBENT. I understand your concern, and the same concern was expressed when we had hearings on the bill in the House, and the argument that was made at that time is strong. I think it's just a longstanding policy of the Bureau not to seek authorization of projects until after feasibility studies are completed or we occasionally support authorization if conditioned on a finding of favorable feasibility by the Secretary.

We're hesitant at this time to change the name of that game. Of course, Congress has the authority to do what they want to do.

Senator NICKLES. OK, well, we'll work with the Bureau and see if we can't come up with something that would be acceptable both to the Bureau and to Congress as a whole.

A quick question, as far as the expansion away from the Great Plains States into the other Western States, do you think that is something that we should do?

Commissioner BROADBENT. Well, we have lots of aquifers in 17 Western States that are seriously overdrafted. Of course, the one that has received the highest amount of publicity and input is the very large Ogallala aquifer, because it involves such a large area, but we have many other smaller aquifers throughout the Western States that do have serious problems.

In a short answer, yes.

Senator NICKLES. Are they experiencing an overdraft situation on underground aquifers in other areas of the country as well?

Commissioner BROADBENT. Oh, yes; you take the Tucson area in Arizona, for instance. Their complete water supply is from ground water, and their aquifer is going down 8 or 10 feet a year.

My hometown of Las Vegas has an underground aquifer that is rapidly being depleted. Now since they have the southern Nevada water project, that isn't true anymore. We have in the central valley project on the west side of the San Joaquin Valley, some-

thing like a 2-million-acre feet a year overdraft in their ground water aquifer.

The illustrations of that go on and on.

Senator NICKLES. Would the technologies that would be in this bill, and the pilot projects that we would be demonstrating have application nationwide.

Commissioner BROADBENT. Yes; you have to remember that you have many different kinds of soil conditions. The water supply, itself, has different qualities which sometimes lend itself more to the recharge than others, depending on whether there is sediment or something similar in the water supply, but in general, yes.

Any demonstration program that you do in one place can be used in part of the studies someplace else.

Senator NICKLES. If we went forward with authorization for phase II, the pilot projects, do you have any recommendation as far as the funding level that should be in the bill.

Commissioner BROADBENT. I don't, Mr. Chairman. I'd be happy to provide it to you, for the record, but we haven't really looked at that.

Senator NICKLES. If you would, that would be appreciated.

Commissioner BROADBENT. Yes, sir.

Senator NICKLES. If we do go ahead and proceed with authorization of phase II, we'd like to do it in a manner that would be economically sound and prudent for you to do a decent job.

Commissioner BROADBENT. We'll be happy to provide that in a timely manner.

Senator NICKLES. Thank you very much.

[The requested information follows:]

RESPONSE TO SENATOR NICKLES QUESTION REQUESTING A SUGGESTED FUNDING LEVEL FOR PHASE II OF THE GROUNDWATER RECHARGE DEMONSTRATION PROGRAM

We are unable to provide an estimated cost for phase II of the groundwater recharge demonstration program proposed in S. 1811 at this time. The large number of factors that would affect the cost cannot be evaluated prior to completion of the studies to be done during phase I of the program. These include such factors as the type of recharge process to be applied at each site, the source of water for each site, technical and institutional factors, and others.

Therefore, while we do not believe the $20 million provided for phase II activities will be adequate, we cannot provide a reasonable estimate of the cost until we complete studies on the projects.

Senator NICKLES. Would you wish to go ahead and proceed to Senate bill 1590?

Commissioner BROADBENT. Thank you very much, Mr. Chairman.

STATEMENT OF HON. ROBERT N. BROADBENT, COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR, ON S. 1590

Commissioner BROADBENT. Mr. Chairman, first, I would like to indicate, to the members of this committee, that I consider the irrigators in these three districts to be friends, and I would hope that through this discussion and these hearings and through any of the suggestions that we can make, that we will be able to reach a compromise on this legislation.

I recognize the frustration of these irrigators and farmers who feel that they were promised by representatives of the Bureau of

Reclamation many years ago, that they were entitled to the very thing that they're asking for today.

The problem is that our record isn't clear, and the documentation isn't there that we can find. Therefore, we have to appear before you in opposition to to S. 1590.

We think that there are several alternatives that we ought to pursue, and would be happy to work with Congress or with the irrigators in either a legislative or a negotiated settlement of these issues. My statement is a little longer, and let me give it to you for the record, but I am trying to be more candid, if I may.

Senator NICKLES. Certainly.

Commissioner BROADBENT. The big problem that we see with the bill, as it is, written is that it's very open ended. The problem that we have at these reservoirs, at Guernsey Reservoir in particular, is that there was an awful lot of silt in that reservoir. But since they built a reservoir and a dam up above it, there isn't much silt coming in anymore. If we continue a silt run much longer in a number of years, we will probably reduce our ability to move silt through that reservoir without some kind of artificial means—like dredges. This bill gives the irrigators silt in perpetuity, and we worry about that because of the long-range impact on the Federal Treasury.

Certainly, I recognize that there is also a long-range impact on irrigators, and somehow we've got to try and reach a compromise. When we first got into this, the irrigators indicated to us that they didn't feel it was fair.

Government had made a commitment. Truly, it was an oral commitment. As far as I am able to determine, we haven't found anything in writing. It was an oral commitment, and I believe them. If a person makes an oral commitment, and he is the proper by constituted authority, he ought to keep his cottonpicking word.

So while I would agree with the irrigators, we just haven't been able to verify any agreement on providing silt. If there is such agreement, it wasn't made, in our opinion, by the appropriate authorities who could obligate the Government to an expenditure of funds over a period of years, without some written contract.

The thing that bothers me a about this, too, from their standpoint, is that when we first met with them, we were talking about a silt run that cost them about $24,000 a year, and now, because of the changes in the marketing of power that are proposed by Western that were adopted a year ago, and the new one that's coming up, the increases in that cost have gone up sky high, from $24,000 to a projected cost of $136,000, which doesn't really seem too fair, in my mind, if we can find a way to get around it.

The problem is that, as Western Area Power markets their Pick-Sloan power, they are marketing a higher percentage of that power under firm delivery contracts than they did in previous years. Therefore, they don't have as much surplus power that goes at a lower price, and, when they market a higher percentage of that power, they take a chance in low water years of not having enough power. Then they have to go out and buy it on the open market. Western Area Power has, in my opinion, done that on their own initiative, and it was an initiative that was taken without considering, in this case, the interest of the irrigators in Guernsey silt run.

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We might approach Western Area Power and try to work with them, so that their marketing plan does, at least, consider a reasonable charge for a silt run which will not drive these people right off their farms.

We would like to suggest a couple of alternatives, if we could. We can continue the silt run at present, as long as the reservoir at Guernsey has available silt for the silt run, and the practice of the silt run is effective in seeing that there is reduced seepage. Once the silt run no longer protects the farmers from their problem, then there is no use in doing it. If the districts would agree to continue to pay a power interference charge, we can work with them on what that charge ought to be, and see if we can't find a way to get it down. They're unhappy with $24,000, but believe me, they will be more unhappy with $136,000.

I am not promising anything, but I'd like to have the opportunity to sit down with them.

The other thing, of course, is that when we started the silt run, and started giving it to them at no charge, my people tell me, and this is again hearsay, that it was based on the fact that in a foreseeable future that the farmers in those districts would go into an R&B program and probably line some of their canals and that they would forego the need for the silt run.

Of course, now as we look at the cost of lining those canals is extremely expensive, but I think we need to factor that into our discussion, and see if there isn't something that we can do there. Maybe it's only one canal, or maybe it is parts of certain canals.

The last alternative that I think maybe we ought to talk about is that perhaps we ought to just sell, these irrigation districts the rights to that powerplant. Let them pick up the payment obligation that is left on that powerplant, and then the power would be theirs.

Now, that presents some problems to us because that power is blended into the Pick-Sloane system, and it isn't the least expensive part of that system. It's probably one of the costlier parts of the system. Maybe there's a way that we can do something similar to what we did at Buffalo Bill—continue to market that power through the Pick-Sloan system to protect them, and let them have the ownership and the responsibility. The power would be theirs, and they could market that power and relieve the Government of the responsibility.

It would be theirs, and we wouldn't have to sit there and argue with them in coming years over whether they can legitimately run silt through that system.

Senator NICKLES. They actually had the generating capacity until when?

Commissioner BROADBENT. Pardon?

Senator NICKLES. 1977?

Commissioner BROADBENT. Until 1952 net power revenues were credited against the district's repayment obligation for the project, but there are reasons for that. In 1944 Congress passed a Flood Control Act. Then the Pick-Sloan system was built, and its power was marketed at a lower price than was required for the North Platte power system, which was marketed at a much higher price.

They just couldn't be competitive in marketing that power as I understand it. I think what we did was integrate the North Platte project power into the Pick-Sloan system so it could be marketed and blended as part of the total system. The more you get into this the sticker it gets candidly, and we, in the Bureau Reclamation, recognize that we're being a little bureaucratic about it. We have a responsibility to taxpayers to make sure that if we can't find something in writing, and if it is a cost to the Government, then we have to consider that somebody has to pay that cost. There are a lot of extenuating circumstances that indicate to me that somewhere between what this bill is, and what we have been talking about, there ought to be a compromise that we can reach. Whether it has to be done legislatively as with selling them a power system, or a combination of legislation and negotiation, we would be willing to sit down with members of the committee, interested congressional people, and the irrigators, to see if we can't bring some kind of an end to our differences.

I consider these people my friends, and I don't want to ever have to go into Torrington and not be able to look them in the eye and say that Reclamation did not treat them fairly .

[The prepared statement of Commissioner Broadbent on S. 1590 follows:]

Statement of Robert N. Broadbent
Commissioner of the Bureau of Reclamation
Witness for the Department of the Interior before the
Subcommittee on Water and Power of the Senate Committee on
Energy and Natural Resources

Septembet 29, 1983

Mr. Chairman and members of the Subcommittee, I am pleased to be here to present the Department's view on S.1590, a bill "To clarify the contractural authority of the Secretary of the Interior to deliver water to the North Platte Irrigation District project."

We oppose enactment of S.1590. This bill would relieve three irrigation districts of any financial obligation resulting from power interference at Guernsey Dam and Glendo Dam powerplants on the North Platte River as a result of providing silt from Guernsey Reservoir. Interference with power generation has occurred during the silt run because it is necessary to release water both from Glendo and Guernsey reservoirs which does not pass through the hydropower turbines. The three districts involved are the Goshen Irrigation District in Wyoming and the Gering-Fort Laramie and Pathfinder Irrigation Districts in Nebraska.

We believe there are two viable alternatives within existing contractural authorities to the provisions of S.1590 and one which would require Congressional authorization:

(1.) Continue the silt run as presently conducted as long as a supply of silt remains available in Guernsey Reservoir and the practice is effective in reducing seepage losses. The districts would continue to pay power interference charges for the revenues lost to the United States because of the operation of the silt run both at Guernsey and Glendo Powerplants.

(2.) The districts could undertake a rehabilitation program of their irrigation systems. A Rehabilitation and Betterment Program loan could be pursued with the Bureau of Reclamation by the districts on an individual or collective basis to accomplish the needed system improvements. Several potential measures are described in a special report on the North Platte Project Rehabilitation and Betterment Program Investigations, dated August 1983.

(3.) The last alternative would require Congressional authorization. The United States could transfer the operation and maintenance of Guernsey Dam and Powerplant, including the rights to the future sale of power and revenues therefrom, to the districts in return for the districts assuming all repayment obligations for the facilities transferred. Additional congressional authorization would be required to withdraw the power from the Federal system as well as to convey title to the works, if desirable.

We are concerned that S.1590 would obligate the United States to deliver silt laden water to the districts at no charge without any time limitation or measure of effectiveness. The bill could also be interpreted to require the United States to incur the expense of mechanically removing silt from the reservoir by dredge or some other means when it can no longer be flushed by lowering the reservoir level.

Guernsey Dam and powerplant are features of the North Platte Reclamation Project which was completed in 1927. The initial repayment contracts provided for the districts to repay the full costs for constructing the North Platte Project including Guernsey Powerplant. However, the net power revenues from the Bureau's operation of the powerplant were credited to the districts' repayment obligation. In 1952, the United States entered into amendatory repayment

contracts with the districts. The purpose of these contracts was to acquire the districts' interests in the project power facilities and future revenues in exchange for a credit of about $6.2 million towards their repayment obligation remaining at that time.

We oppose enactment of S.1590 because the districts have already been compensated through the $6.2 million credit for their rights to future power revenues under these 1952 contracts. The United States is entitled to recover those costs through the generation of electric power without interference as long as the required water deliveries for irrigation are made to the districts. The districts have no legal right to the delivery of silt laden water either as an element of their water right or as a provision of the 1952 amendatory contracts. To require the delivery of silt laden water without charge would amount to additional compensation and would establish a significant precedent for Reclamation projects and other water resource development.

Background information is presented in more detail in an analysis report on the Guernsey Silt Run Power Interference Charges, dated April 1983, which was prepared in response to the districts' request to the Secretary of the Interior in December 1982 that power interference charges be eliminated. We would be pleased to provide the Subcommittee with a copy of that report.

Mr. Chairman, we are open to pursuing these alternatives to S.1590 with the districts and the Congress. We prefer alternative 3, the transfer of the operation and/or title of the Guernsey Dam and powerplant to the Districts over the other two alternatives. This would minimize Federal involvement and allow the Districts' greater flexibility in the operation of the project.

We appreciate this opportunity to comment on S.1590.

Senator NICKLES. Commissioner, I appreciate your comments, and I would echo that and tell you that my preference would be that you could solve it administratively, and that we wouldn't need a legislative solution. I think the dilemma that was imposed on all the participants after fighting the hassles for some time forced them to seek a legislative solution. I think, certainly after hearing from Senators Wallop and Simpson, and also Zorinsky and Exon, Congresswoman Smith, I think they want to see the problem solved.

Commissioner BROADBENT. I get that impression.

Senator NICKLES. They've indicated a strong desire to see it solved, and whether that would be administratively or legislatively, they're looking for a solution. I compliment you, too, for your willingness to show some flexibility and willingness to be able to work with interested parties. This subcommittee will do what we can to somewhat facilitate trying to maybe get all the interested parties together and do what we can to see if we can't come up with a workable solution that will be satisfactory to everyone including the taxpayers, as well.

Again, thank you for your comments and for your flexibility on these issues. I am certain of your flexibility on the underground recharge bill, as well.

Commissioner BROADBENT. Mr. Chairman, we love that bill.

Senator NICKLES. Thank you very much.

Commissioner BROADBENT. It's a pleasure to be here. Thank you for the opportunity.

Senator NICKLES. Thank you.

Our next two panelists—we have Dr. Jim Osborn, who is head of the department of agricultural economics from Oklahoma State University, Stillwater, Okla., and also we have Robert Will, from Washington, D.C., representing the Santa Ana Watershed Project Authority in southern California.

Dr. Osborn, thank you for being with us today, and for your journey, and please proceed.

STATEMENT OF DR. JAMES E. OSBORN, DEPARTMENT OF AGRICULTURAL ECONOMICS, OKLAHOMA STATE UNIVERSITY

Dr. OSBORN. Good morning, and thank you for the opportunity to be here. I have a written statement, which I'd like to request it be put in the record, and I'll make some comments and notes.

Senator NICKLES. Thank you. Your statement will be entered in the record in full, and I appreciate your summation of it.

Dr. OSBORN. My business is in the area of teaching research and extension at Oklahoma State University, and that is my major reason for being here supporting this bill. I believe the bill will benefit farmers and ranchers in the State of Oklahoma. It will also benefit farmers and ranchers in the other seven States that have the Ogallala formation.

A major thrust in Oklahoma is in the 10 northwest counties in Oklahoma, typically called the panhandle area.

Senator NICKLES. Could you put the microphone up just a little bit?

Dr. OSBORN. Yes. Is this better?

Senator NICKLES. Yes. Thank you.

Dr. OSBORN. In Oklahoma, we have approximately 2,875 wells that are pumping from the Ogallala formation. These wells are irrigating approximately 495,000 acres, or roughly 500,000 acres primarily alfalfa, wheat and grain sorghum are produced on these irrigated acres. That is the backbone of that economy because the economy in the northwestern counties in Oklahoma are based upon cattle feed lots also, and without a stable supply of alfalfa, wheat, grain sorghum and also there's some corn silage, it will have a detrimental effect upon the farmers, the regional economies, local economies and also the State of Oklahoma.

As has been stated several times this morning, and I think it needs to be repeated again, the Ogallala formation is unique. It's very unique in that 90 percent of the water that is pumped in the Ogallala is used by agriculture and irrigation.

It is a fresh water supply, and it's a good quality of water supply. Average—in definite supply characteristics, there is a small amount of recharge through percolation, but not sufficient to replenish the water that is pumped out, so we do have an overdraft. The overdraft is estimated in Texas High Plains area to be between 2 and 3 feet per year of declining static water level.

This would range, depending upon the thickness of the formation and the location that the farmer might be in this formation. Also what is—it's important to note that the formation is not homogeneous. Any general rule of thumb would not be applicable throughout the Ogallala formation in Oklahoma nor the seven other States. This leads in to the major importance of this bill, because I believe it's time for us to take serious consideration in this natural resource.

We take for granted that water is always available. As we sit here with this glass of water this morning, we don't miss it until that glass of water is gone. It's the same way with farmers. They're faced with the same situation. They are pumping water from a formation that does not have complete knowledge, either to the rancher, the farmer, the Bureau, Oklahoma State University, or anyone else at this point in time.

I believe it's absolutely time that we, as a society, not just the farmers and ranchers, but as a society, take an interest in this situation of a natural resource because we have time at the present time to make some decisions and alterations and plans for the future.

So many of our other resources we wait until it's too late and then we cannot make those necessary plans. We do not have enough information to make those decisions. I believe it is time for comprehensive study to be made in these eight States, and the eight States are not uniform they're not homogeneous. They're different.

Twenty-one observation or demonstration areas or situations may not be sufficient. We don't know at the present time. I believe this study should be extremely thorough, and should be extensive throughout the total area. I believe that this study should be and the bill S. 1811 does support what I am saying at this point—I believe the emphasis should be on two separate aspects, the technical aspects and the economic aspects.

The economic analyses cannot be complete unless we have sufficient technical information to make those analyses. As a government that would be supporting some of these investments and research we are asked questions about what are the benefits and to whom do the benefits go. Who would be the beneficiaries of these investments?

Of course, the first beneficiaries would be the farmers and the ranchers. We also know that the barbershops and the local communities, the car dealerships and the regional economies and the State economies will benefit, but it doesn't stop there. It also affects export trade for the United States, and also impacts on the total international economy, so it's not a local problem situation.

In conclusion, I would support this bill for the farmers and ranchers in Oklahoma and for Oklahoma State University.

[The prepared statement of Dr. Osborn follows:]

STATEMENT BEFORE THE SUBCOMMITTEE ON WATER AND POWER
OF THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
IN SUPPORT OF S. 1811
PRESENTED IN WASHINGTON, D.C., SEPTEMBER 29, 1983
BY JAMES E. OSBORN
HEAD OF DEPARTMENT OF AGRICULTURAL ECONOMICS
OKLAHOMA STATE UNIVERSITY

My name is James E. Osborn. I have a Ph.D. in Agricultural Economics at Oklahoma State University. I have worked as a professional Agricultural Economist at North Carolina State University, Auburn University, Texas Tech University, and Oklahoma State University. While I was employed at Texas Tech University, I was also a joint employee with Texas A & M University.

My work at Texas Tech University was concentrated on the economic impacts of the Ogallala on farmers and the economy of the Southern High Plains of Texas. Specifically, I was concerned with the economic impacts of a declining groundwater supply on farmers and the regional economy in West Texas.

My position at Oklahoma State University includes management of a large department (approximately 150 people) in three areas: Teaching, Research, and Cooperative Extension. Programs are conducted in Farm Management, Marketing, Agricultural Policy, Natural Resource Economics, and Rural Development with respect to Agriculture and Rural Oklahoma.

Oklahoma State University is a multipurpose university which offers Bachelor, Masters, and Doctoral degrees in numerous areas. In addition, it is the Land Grant University in Oklahoma with the Oklahoma Agricultural Experiment Station and Oklahoma Cooperative Extension Service as two of its units.

Oklahoma is an agricultural state with approximately 79,000 farmers and ranchers. Agriculture is second only to petroleum as a source of income to Oklahoma. There are approximately 34 million acres of land in farms with an estimated 15 million acres in cropland. Approximately 80% of the value of production of crops and livestock is received from these commodities: cattle and calves (44%); wheat (30%); and hay (6%).

Over 900 thousand acres of cropland are irrigated with approximately 495 thousand acres being irrigated with groundwater from the Ogallala aquifer. The Ogallala formation in Oklahoma is located primarily in the 10 northwestern counties. The formation extends to 7 states in addition to Oklahoma in the Great Plains area.

Characteristics of the Ogallala make it a unique formation. That is, it is composed of deposited materials such as clay, silt, sand, and gravel, capped by caliche. The deposited materials are saturated with a finite supply of fresh, high quality water. The saturated materials vary in thickness and depth from soil surface to saturated materials. Although the gradient of the formation is from northwest to southeast, the rate of groundwater movement has been estimated to be about 2 inches per day.

Rainfall (average annual) in the northwestern counties varies from 14 inches in the west to 24 inches in the east. Groundwater

from the Ogallala is used to supplement water from rainfall for producing crops. Recharge to the aquifer from rainfall and irrigation is low when compared to the withdrawal of groundwater. Thus, an overdraft on the supply of groundwater will eventually render economic exhaustion of the source of groundwater. The decline in the static water level has been reported as much as 10 feet in one year. However, it is more likely to average between 2-3 feet per year.

Groundwater is lifted to the surface with approximately 2,875 wells in northwestern Oklahoma. The wells are primarily powered with internal combustion engines that are using natural gas. Electricity, propane, gasoline, and diesel are also used for energy sources.

Application of groundwater through irrigation increases yields of crops by 2 to 5 times over dryland production. Other complimentary resources with irrigation also contribute to this incremental yield.

Crops such as alfalfa (12%), corn (11%), sorghum (41%), and wheat (34%) are irrigated. These crops are supportative of the cow-calf and cattle feeding industries in the 10-county area. Substantial investments have been made by farmers to pump and distribute water and by cattle feeders to utilize these crops with cattle in feedlots.

The next major crisis in the United States has been predicted to be a shortage of water. This crisis will be highly significant to agriculture in the 8-state area since approximately 90% of the groundwater is used for agricultural purposes. Studies have been completed to estimate this crisis on farmers and local economies in the Ogallala area. In an agricultural situation when financial and surplus problems prevail, it is difficult to direct attention

to improvement of a major natural resource. That is, a study of groundwater recharge in 3 states.

Groundwater recharge research has been conducted by several private and public agencies including: Universities, Research Foundations, and Federal Agencies. Initial thrust for these studies was made in the late 60's. Results of these studies were based on suspended solids and organic matter in water to be recharged, cycling of pumping-recharging action, characteristics of formation, and pressure on injection.

Technology is available for recharge, i.e. drilling well, dual-purpose pump, and energy source. The technique to clarify the water of suspended solids, organic matter, biological elements, and chemicals becomes crucial. In addition, the determination of water quality and formation interactions is necessary for successful groundwater recharge.

Groundwater recharge includes an additional expense for the irrigator: the process of storing water in the formation. That is, the farmer or rancher must collect water for recharge, clarify the water, and move the water from surface storage to the dewatered sectors of the Ogallala formation (this movement of water may include pressure by a pump to force the water into the formation.) Currently, the irrigator is harvesting (mining) the groundwater for purposes of increasing production of crops through irrigation and the associated resources. However, use of groundwater that has been recharged requires an expense to store the water (clarifying and "down-pumping") and an expense to pump the water to the surface.

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Although artificial recharge is not a new idea, public interest in this option has been growing at least in part because of the environmental problems associated with surface storage. This growing public interest has created a need to critically examine the technical and economic feasibility of artificial recharge in regions where the only significant groundwater use is irrigation. More emphasis has been given to technical feasibility studies in the past than to economic feasibility of artificial recharge. Some authors report over 800 published technical reports on artificial recharge studies.

Some research work has been reported on economics of groundwater recharge. This work has stressed two areas: cost of recharge systems and economics of conjunctively managing surface and groundwater.

Work is needed concerning the value of benefits from artificial recharge. Policy makers will be unable to determine when, where, and if artificial recharge is a viable option until more is known about potential benefits from groundwater recharge.

Benefits from recharge of groundwater occur in two forms:

1. Extending the economic life of the aquifer.
2. Reducing pumping costs by reducing the decline in the static water level.

Types of potential costs were discussed in a previous section (injection and clarification). In addition, it may be possible to purchase water for recharge in some areas.

Since the benefits and costs will occur in different time periods, the appropriate discounting and/or compounding of benefits

and costs will be necessary for comparison. This option, groundwater recharge, should be given a thorough, systematic, and comprehensive evaluation. It offers several opportunities to farmers, ranchers, and regional economies by extending the economic life and/or maintaining the level of water application on crops.

Groundwater supplies in the Ogallala are being overdrafted. Groundwater recharge is an alternative to reduce the impact of the eventual economic exhaustion of the supply of groundwater.

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Senator NICKLES. Thank you very much Dr. Osborn. We appreciate your comments.

Mr. Will.

STATEMENT OF ROBERT P. WILL, REPRESENTING METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AND SANTA ANA WATERSHED PROJECT AUTHORITY

Mr. WILL. Thank you, Mr. Chairman. I appreciate this opportunity to appear before your committee today, in support of your bill, S. 1811, and I think that we certainly want to compliment you on the introduction of this bill, as I think that could prove to be a very effective tool in trying to resolve some western water problems.

I speak today on behalf of the Metropolitan Water District of Southern California, and the Santa Ana Watershed Project Authority, an agency also within the southern California area.

In the area of southern California, our ground water basins have played a very significant role in the growth of that entire area, and until imported water became available in that area in the 1940's, those ground water basins were declining rapidly, and the availability of imported water from the Colorado River, and now from northern California, has given us the opportunity to replenish many of those reservoirs.

Underground water basins certainly add a completely different impact to what we traditionally consider as a water project. They can be operated just like a surface reservoir. They can be drawn down in dry years. They can be replenished in wet years, and you can use them for an opportunity to dispose of treated reclaimed water that, in many instances, helps maintain the replenishment of those basins.

One of the significant impacts, of course, of a ground water basin, where you do not have to build large surface water storage facilities, as you avoid many of the costs of a surface water reservoir and, also, of the surface distribution systems that may be necessary.

You can recharge the aquifer in one end of the basin and pumpers can take it out over the entire area of the basin as that basin is replenished. Ground water basins are certainly an important resource in water management.

We wish to make a couple of suggestions today, if we may, with respect to the legislation. First of all, within the State of California, at any rate, many of the local political subdivisions of the State play a very significant role in the management of those basins, and we would like to recommend that section 7 of your bill, which permits the Secretary to contract with State or departments of States for this program, and we would suggest that that be amended to include political subdivisions of a State, who oftentimes have the most direct authority and responsibility for the management within basin area.

While the language of the bill perhaps includes it, we think that it might be made clear that the Bureau, in its program, should look not only at the physical capability of recharging a basin, but should consider it within the overall management of the ground water basin. The basin needs management, as well as just a supply

of water to keep it full, and you run into many problems in a basin. You run into surface pollution problems.

You have salinity problems within the basin, a number of other factors, and you can't really properly operate a ground water basin without looking at the overall management responsibility within that basin, and the Bureau, even though this bill does provide for a somewhat limited study, probably should have the authority to work with the States and local agencies with regard to an overall management plan for the basin, as well.

Also, we would definitely oppose the position of the Bureau of Reclamation on this bill, that phase II be dropped out of the bill. We believe that with the structure of the current bill, that there will be adequate congressional oversight of the progress of the study and the demonstration program. As you, yourself, mentioned, Mr. Chairman, there is always a delay in seeking congressional authorization of projects after the Bureau has completed the study, and we believe in this case that there is adequate reason to implement the whole program as you've drafted it in your legislation.

One other suggestion that we would make is that you carefully look, also, at the total funding authorization within this bill. If you're talking about 21 recharge demonstration projects, the $20 million authorized by the bill may not be adequate, and I'm pleased to hear you inquire of the Commissioner as to whether this figure would be adequate.

That's all we have, Mr. Chairman.

[The prepared statement of Mr. Will follows:]

Prepared Statement of Robert P. Will, Representing Metropolitan Water District of Southern California and Santa Ana Watershed Project Authority

The Metropolitan Water District of Southern California supports the groundwater recharge demonstration program that S. 997, S. 1811 and HR 71 propose. In our opinion, it offers valuable assistance for improving management techniques to protect, as well as augment, groundwater supplies, and thus increase water supplies generally.

Metropolitan is a public water district that imports and delivers water wholesale to communities on the semi-arid coastal plain of Southern California. It is composed of 27 member public agencies located in six counties, and includes 133 cities and almost 13 million people, more than one-half of the population of the State of California, or about 1 person out of 20 in the entire United States.

Metropolitan supplies water to meet demands of its member public agencies, that cannot be met from local supplies. Currently, it provides about half of the areas total annual water supply requirements which total a little over 3 million acre feet. About 70 percent of the water Metropolitan delivers is used for domestic and municipal purposes, with 15 percent used for agricultural purposes, and the remaining 15 percent used for a groundwater replenishment program which has been conducted for about 30 years.

Metropolitan considers groundwater protection and augmentation especially important because groundwater basins provide most of the local water supply and storage available to the millions of people that live and work in its semi-arid service area. Consequently, developing techniques for managing Southern California's groundwater basins more effectively will allow Metropolitan to stretch its imported water supplies even further than it now does.

Indeed, Metropolitan has for sometime been exploring methods to store imported water that is available in wet years in groundwater basins so that it can then be recaptured and used in subsequent dry years. We also have developed in-lieu delivery and other programs for mitigating groundwater quality problems. The pending bills appear to contemplate development of these types of groundwater management techniques.

We appreciate the bills' recognition that groundwater management requires careful correlation of the many factors that distinguish one groundwater basin from another. In our experience, groundwater basin management is community-oriented, so that local political subdivisions, rather than state agencies, carry the management and financial burdens. Consequently, we suggest that the bills be modified to allow the Secretary of the Interior to contract directly with local water agencies to implement the demonstration programs.

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COMMISSION FOR THE PROJECT AUTHORITY
CHINO BASIN MUNICIPAL WATER DISTRICT
ORANGE COUNTY WATER DISTRICT
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT
WESTERN MUNICIPAL WATER DISTRICT

MANAGER
J. ANDREW SCHLANGE

September 23, 1983

Senator Don Nickles
Chairman Sub-Committee Water and Power
Committee on Energy and Natural Resources
United States Senate, Washington D. C.

Dear Mr. Chairman:

My name is J. Andrew Schlange, General Manager of the Santa Ana Watershed Project Authority, which is a political sub-division of the State of California locally referred to as SAWPA.

We appreciate the opportunity to submit this statement to your committee which is in support of H.R. 71 as passed by the House of Representatives and S 1811, sponsored by yourself and Senators Exon and Zorinsky. However, in the conclusion of this statement we wish to suggest an amendment which we believe would enhance the accomplishment of the purpose of the Act by authorizing the Secretary to also enter into agreements with political sub-divisions of the States enumerated in addition to their agencies and departments. We believe that the study of the potential for groundwater recharge in the High Plain States and throughout the Western United States is urgently needed.

SAWPA overlies the major portion of the developable land of the Santa Ana River Basin which in turn includes many major separate interconnecting groundwater sub-basins, with common problems involving water quality and water supply from the upstream water source as it passes through the service area of our member agencies downstream to the pacific coastline. Our service area includes portion of Orange, Riverside, and San Bernardino counties and covers an area of 2200 square miles and is home for two million people.

SAWPA performs its services through joint powers with its following member public water agencies: Orange County Water District, Western Municipal Water District of Riverside County, and the Chino Basin Municipal Water District and San Bernardino Valley Municipal Water District, both lying in San Bernardino County.

The principal functions of our Agency is to perform technical and engineering studies and evaluations, develop plans and recommendations, and construct and operate physical facilities to protect, enhance and manage the use and reuse of local surface and groundwater systems and imported water supplies within our service area. As a major function, we do not engage in the distribution and sale of water. This is accomplished by the above four member agencies.

Typical of our responsibilities is the development of the "Basin Plan" for the Santa Ana River Basin for the EPA under the Federal Clean Water Act, and the construction of a Brine Pipeline System to collect non-reclaimable wastewater from throughout our far-reaching service area and conveying this waste from inland to a point close to the Pacific Ocean where it is treated to qualify for discharge to the ocean. Typical of many other major areas of the Western States, the lands within our service area were developed and continue to depend largely on groundwater. Over many years these groundwater basins have been overdrawn resulting in falling water tables leading to higher pumping costs, and in many areas high salinity or groundwater depletion. These matters are being further complicated by surface pollution of our ground water. Accordingly, the protection, enhancement, maintenance, recharge and management of groundwater resources of our service area is vital to the economic growth and continued well-being of the two million people residing here.

Because of the responsibilities of our Agency, we have long recognized the need for more comprehensive research and demonstration of the recharge of aquifers and groundwater management. For these reasons we strongly support the objectives of H.R. 71 and S 1811. Our following comments are applicable to both bills since they are substantially the same.

1. We commend the language of these bills for the broad scope and project concept that define project plans to be developed and evaluated under Phase 1, Section 3, and equally broad direction from implementing plans under Phase 2 as set forth in Section 4. However, we believe that these definitions would be stronger if they include the words "Management" or other words implying the capability of a continuing operation.

2. We strongly recommend that the second sentence in Section 7 be redrafted to authorize the Secretary of Interior to enter into Memorandum of Agreements with political subdivisions of states as well as any appropriate agencies or departments. We believe that this is extremely important to the accomplishment of the purposes

of this act in view of the fact that in many states the actual research, planning, and implementation of groundwater recharge programs is being largely undertaken by political subdivisions of the states rather than state agencies. These political subdivisions in many areas would be in position to readily work with the Bureau of Reclamation by providing all of the ingredients for research and demonstration including groundwater basin facilities, potential water supplies and state-of-the-art technical assistance. Many of these political subdivisions, such as the Orange County Water District within our service area, is known nationwide for its accomplishments in the field of groundwater recharge and management.

3. We wish to commend the sponsors of these bills for designating the Secretary of Interior, acting through the Bureau of Reclamation, as the Federal agency responsible for accomplishing the purpose of the proposed demonstration program. We have found the Bureau of Reclamation to be very capable and efficient in the development and implementation of water programs.

Finally my thanks to the Chairman and the Committee for the opportunity to submit this statement and our recommendations.

Respectfully,

J. Andrew Schlange

J. Andrew Schlange
General Manager
Santa Ana Watershed Project Authority

Senator NICKLES. Thank you very much, Mr. Will. Just a couple of questions. I appreciate your comments for some of the suggestions, particularly the one with political subdivisions. I think we can probably accommodate that.

It struck me when you mentioned management of the underground reservoirs. I could see a lot of problems with that. Would you care to go into that a little bit further?

Mr. WILL. Well, to take a specific example, the Orange County Water District, for instance, in southern California, has the responsibility of maintaining a rather large ground water basin in that area. That responsibility includes the importation of water for recharging the basin. It includes the responsibility of determining when that basin needs to be recharged, when pumpers can pump from it, or are required to go to surface water supplies, in lieu of ground water pumping.

It gives them some responsibility for monitoring the water quality in that basin. These are all facets of the overall management of a ground water basin.

Senator NICKLES. This is presently done by local groups?

Mr. WILL. At the present time, it is done by a special district, political subdivision of the State, and——

Senator NICKLES. Don't you think that if we had the Bureau mandating to all the individual water districts, that we would have severe problems?

Mr. WILL. Oh, I am sorry if I didn't make myself clear. I was not suggesting, certainly, that the Bureau tell them how to do it.

Senator NICKLES. I was interpreting that, and I was——

Mr. WILL. Yes, and I think——

Senator NICKLES [continuing]. Not sure if you wanted me hung or not.

Mr. WILL. No, no. I think that they may help whatever agency would have the responsibility in that area with a management plan.

Senator NICKLES. I appreciate your comments. We have a vote, so just a quick question for Dr. Osborn.

You mentioned the fact that the Ogallala Reservoir in western Oklahoma has declined 2 or 3 feet?

Dr. OSBORN. That's an annual decline of 2 to 3 feet.

Senator NICKLES. How long has that been going on?

Dr. OSBORN. Oh, the record probably would show about 10 years, at least.

Senator NICKLES. Ten years? Do you have any estimates on—you mentioned the depths or the reservoir varies considerably, I guess, as it travels through States. Is there an average thickness of the reservoir?

Dr. OSBORN. No, Senator. That would be a very difficult question to answer because it depends on where you're located. The formation is very thick in some areas and—in Oklahoma, particularly, on the western edge, it's very thin, and probably would only have 20 or 30 feet of saturated materials, whereas around the Gamon area, you might have 200 to 300 feet of saturated materials, of water, and it might vary in the Gamon area from 150 feet to 200 feet of water, and on the eastern edge in Oklahoma, it might only be 60 to 70 feet of water, so it does vary——

Senator NICKLES. To where you would find in some counties in the Texas Panhandle, Oklahoma Panhandle and maybe up through Kansas, Nebraska, wherever, where they could be experiencing serious water shortages in the next 10 years, and others might be in good shape for another 20 years or something.

Dr. OSBORN. That would be true in each State. There would be some farmers in each State who would be experiencing significant water shortages at the present time, due to water availability and the formation. There would be farmers in the same State, maybe 50 miles from this farmer, that would have an ample supply of water for probably 20 to 30 more years, due to the water supply that is naturally deposited in his farm.

Senator NICKLES. The cost for natural gas for irrigation has risen considerably. A lot of—this particular aquifer is under the Yucatan gas field, which has had low prices in the past, but those prices have increased substantially, and possibly will increase, and I expect would increase substantially in the future.

Has this made it uneconomic to irrigate? Have we seen a reduction in irrigation, and, therefore, maybe a reduction in the depletion of the aquifer?

Dr. OSBORN. It has had some impact. Farmers are applying less water and also applying water on fewer acres, so they are dewatering the formation at a slower rate, and economic exhaustion will occur at an earlier time due to those increased costs would——

Senator NICKLES. Is increased cost primarily natural gas, or is it because maybe the water is a little bit deeper or maybe a little harder to find, little more expensive to pump? Is the reduction primarily due to gas cost, or is it for, in some cases, maybe a little more expensive to pump the water?

Dr. OSBORN. It's a mixture of both factors, because as each year moves on, the farmers pump water on an average of 2 to 3 more feet each year in total depth that they're pumping. In addition, natural gas costs are increasing also, so they get a compounding effect—both an increased lift to water and increased natural gas cost, so those two add together and amplify that increased cost.

Senator NICKLES. Thank you very much, and I appreciate your input. It's necessary for me to vote. I see Congresswoman Smith is still here, and I know that she wants to introduce the next panel.

It will be my intention to vote and return immediately to conclude our final panel on the Givernsey bill. If you wish to introduce them quickly, I've got—now I've only got 7 minutes to vote, so if you want to introduce them real quickly, I'll catch your introduction and then I'll run.

Mrs. SMITH. First, let me say that Commissioner Broadbent and I worked happily and constructively together on many issues, and I hope with you, with him, with the House and, most importantly, with the irrigators, that we can solve this problem.

We have two people who have come 2,000 miles and care so much that they have been here all morning. Mr. and Mrs. E. C. Bradley, will you stand up? Now the irrigators who will be coming up to testify; Mr. Dale Stamen, the president of the Pathfinder Irrigation District. Don't you want to come up, Dale, so everybody will know you?

Mr. Al Hoyt, a member of the Pathfinder Irrigation Board; Mr. Phil Hort, the president of the Gering Fort Laramie Irrigation Board. Mr. William Franks of the Goshen, Wyo.—he's from Torrington—Wyoming Irrigation District.

And thank you very much, and I'm sure they'll be ready to testify when you come back, and if I can stay, I will.

Senator NICKLES. Thank you very much, and I appreciate your introduction, and I will return in a few moments. It will probably take me about 15 minutes, and so we'll stand in recess until that time.

Thank you very much.

[Whereupon, a recess was taken.]

Senator NICKLES. Mr. Hort, would you care to begin?

STATEMENT OF PHIL HORT, PRESIDENT, GERING-FORT LARAMIE IRRIGATION DISTRICT

Mr. HORT. Thank you. Mr. Chairman, members of the committee, on behalf of the Nebraska and Wyoming Irrigation—irrigators of the North Platte project, we wish to express, first of all, our appreciation for your time today to review the controversy which S. 1590 is seeking to address.

Second, we wish to request the committee's assistance in arriving at a solution. We would summarize our testimony today that the irrigation districts are not liable to the Bureau or anyone else for the power interruption charge resulting from the silt run, and this fact is clearly borne out in our original memorandum and the supplemental memorandum previously submitted to the Bureau of Reclamation and Secretary of the Interior.

The original memorandum, together with the supplement memorandum and the affidavit submitted herewith as exhibits are believed to substantiate the contention of the irrigation districts, that the power interruption charges assessed against the irrigation districts by the Bureau of Reclamation for silt runs are unjust and illegal.

Although we firmly believe that our position is sound, being that the power interruption charge for silt run assessed by the Bureau of Reclamation are illegal. We do not feel that the irrigation districts should be put to the tremendous expense of litigating this matter.

We realize that the administration does not want a give-away program, and we are not asking for a give-away program. We are asking that the U.S. Government back up its statements made by its duly authorized representative, and we are asking for a fair shake, which means that there should be no power interruption charge made by the Bureau of Reclamation for the required silt runs of the irrigators.

We have cooperated with the Bureau of Reclamation at every step, and we were induced to enter into an amendatory contract of 1952 and induced to permit the building of Glendo Reservoir with representation that we—there would be no charge for the power interruption charge for silt runs which we rely upon.

The amendatory contracts, themselves, include language as follows: "The district's right to project water for irrigation uses shall

be protected, conserved, and administered first in right as against other uses, and such right shall not be impaired by the operation of—by the United States of any power producing facilities now or hereafter constructed."

In practically all meetings between representatives of the Bureau and representatives of the irrigation district, silt runs were discussed, and the representatives of the Bureau assured representatives of the irrigation districts that the silt run would be continued as ordered by the irrigation districts without any power interference charge of any kind or nature whatsoever.

Several Secretaries of Interior, which it is believed to be about seven, abided by the Bureau's agreement and representation, and no power interruption charges were ever assessed against the irrigation district until the year 1975.

To permit such charges by the Bureau of Reclamation, contrary to its past agreements, representation is something we do not believe should be sanctioned by our Government. In *Nebraska* v. *Wyoming,* 325 U.S. 589, one of the trademark cases in the water law, and one of the cases allocating water of the North Platte project, the Supreme Court of the United States, at page 614 of its opinion, stated as follows:

> We can say here that we said in Ickes versus Fox, although the Government diverts, stored and distributes the water, the contention of the petitioner that thereby ownership of the water, or water rights, become vested in the United States is not well founded. Appropriation was made not for the use of the Government, but under the Reclamation Act, for the use of the landowners, and by the terms of the law, the contract already referred to, the water rights became the property of the landowners, wholly distinct from the property rights of the government in the irrigation works.
>
> The property rights in the water right is separate and distinct from the property rights in reservoirs, ditches or canals. The water rights is appurtenant to the land, the owner of which is the appropriator.

If the water belongs to the owner of the irrigated farm lands, which the Supreme Court of the United States has, in effect, so stated, then how in the world can the Bureau of Reclamation legally or ethically charge the irrigated farmers by charging their respective irrigation districts for power interruption charge for silt runs for the availability of the farmers' own water.

All of our people here today have traveled a long distance to appear before your committee, and we are each prepared to answer any and all of your questions. We ask for your help in resolving this controversy which S. 1590 seeks to address.

Thank you for the opportunity to appear before this committee, and we are willing to take questions, or I think some of our people here would like to make some comments.

[The prepared statement of Nebraska and Wyoming irrigators follow:]

Prepared Statement of the Nebraska and Wyoming Irrigators on S. 1590 the North Platte Project Silt Run

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, ON BEHALF OF THE NEBRASKA AND WYOMING IRRIGATORS OF THE NORTH PLATTE PROJECT, WE WICH TO EXPRESS, FIRST OF ALL, OUR APPREICATION FOR YOUR TIME TODAY TO REVIEW THE CONTROVERSY WHICH S. 1590 SEEKS TO ADDRESS. SECONDLY, WE WISH TO REQUEST THE COMMITTEE'S ASSISTANCE IN ARRIVING AT A SOLUTION.

WE WOULD SUMMERIZE OUR TESTIMONY TODAY THAT THE IRRIGATION DISTRICTS ARE NOT LIABLE TO THE BUREAU OR ANYONE ELSE FOR THE POWER INTERRUPTION CHARGES RESULTING FROM SILT RUNS AND THIS FACT IS CLEARLY BORNE OUT BY OUR ORIGINAL MEMORANDUM AND THE SUPPLEMENTAL MEMORANDUM PREVIOUSLY SUBMITTED TO THE BUREAU OF RECLAMATION AND SECRETARY OF INTERIOR.

THE ORIGINAL MEMORANDUM, TOGETHER WITH THE SUPPLEMENTAL MEMORANDUM AND THE AFFIDAVITS SUBMITTED THEREWITH AS EXHIBITS, ARE BELIEVED TO SUBSTANTIATE THE CONTENTION OF THE IRRIGATION DISTRICTS THAT THE POWER INTERRUPTION CHARGES ASSESSED AGAINST THE IRRIGATION DISTRICTS BY THE BUREAU OF RECLAMATION FOR SILT RUNS, ARE UNJUST AND ILLEGAL.

ALTHOUGH WE FIRMLY BELIEVE THAT OUR POSITION IS SOUND, BEING THAT THE POWER INTERRUPTION CHARGES FOR SILT RUNS ASSESSED BY THE BUREAU OF RECLAMATION ARE ILLEGAL, WE DO NOT FEEL THAT THE IRRIGATION DISTRICTS SHOULD BE PUT TO THE TREMENDOUS EXPENSES OF LITIGATING THIS MATTER.

WE REALIZE THAT THE ADMINISTRATION DOES NOT WANT GIVEAWAY PROGRAMS. WE ARE NOT ASKING FOR A GIVEAWAY PROGRAM. WE ARE ASKING THAT THE UNITED STATES GOVERNMENT BACK UP ITS STATEMENTS MADE BY ITS DULY

AUTHORIZED REPRESENTATIVES AND WE ARE ASKING FOR A FAIR SHAKE, WHICH MEANS THAT THERE SHOULD BE NO POWER INTERRUPTION CHARGES MADE BY THE BUREAU OF RECLAMATION FOR THE REQUIRED SILT RUNS OF THE IRRIGATORS. WE HAVE COOPERATED WITH THE BUREAU OF RECLAMATION AT EVERY STEP. WE WERE INDUCED TO ENTER INTO THE AMENDATORY CONTRACTS OF 1952 AND INDUCED TO PERMIT THE BUILDING OF GLENDO RESERVOIR WITH REPRESENTATIONS THAT THERE WOULD BE NO CHARGE FOR THE POWER INTERRUPTION, FOR SILT RUNS, WHICH WE RELIED UPON.

THE AMENDATORY CONTRACTS, THEMSELVES, INCLUDED LANGUAGE AS FOLLOWS:

> "THE DISTRICT'S RIGHT TO PROJECT WATER FOR IRRIGATION USES SHALL BE PROTECTED, CONSERVED AND ADMINISTERED FIRST IN RIGHT AS AGAINST OTHER USES, AND SUCH RIGHT SHALL NOT BE IMPAIRED BY THE OPERATION BY THE UNITED STATES OF ANY POWER PRODUCING FACILITIES NOW OR HEREAFTER CONSTRUCTED."

AND IN PRACTICALLY ALL MEETINGS BETWEEN REPRESENTATIVES OF THE BUREAU AND REPRESENTATIVES OF THE IRRIGATION DISTRICTS, SILT RUNS WERE DISCUSSED, AND REPRESENTATIVES OF THE BUREAU ASSURED REPRESENTATIVES OF THE IRRIGATION DISTRICTS THAT THE SILT RUNS WOULD BE CONTINUED AS ORDERED BY THE IRRIGATION DISTRICTS, WITHOUT ANY POWER INTERRUPTION CHARGES OF ANY KIND OR NATURE WHATSOEVER.

SEVERAL SECRETARIES OF INTERIOR, WHICH IT IS BELIEVED TO BE ABOUT SEVEN, ABIDED BY THE BUREAU'S AGREEMENTS AND REPRESENTATIONS AND NO POWER INTERRUPTION CHARGES WERE EVER ASSESSED AGAINST THE IRRIGATION DISTRICTS UNTIL THE YEAR 1975. TO PERMIT SUCH CHARGES BY THE BUREAU OF RECLAMATION, CONTRARY TO ITS PAST AGREEMENTS AND

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REPRESENTATIONS, IS SOMETHING WE DO NOT BELIEVE SHOULD BE SANCTIONED BY OUR GOVERNMENT.

IN NEBRASKA v. WYOMING, 325 U.S. 589, ONE OF THE LANDMARK CASES IN WATER LAW AND THE ONE CASE ALLOCATING WATERS OF THE NORTH PLATTE PROJECT, THE SUPREME COURT OF THE UNITED STATES, AT PAGE 614 OF ITS OPINION STATED AS FOLLOWS:

> "WE CAN SAY HERE WHAT WAS SAID IN ICKES v. FOX.....ALTHOUGH THE GOVERNMENT DIVERTED, STORED AND DISTRIBUTED THE WATER, THE ~~CONTENTION~~ Contention OF THE PETITIONER THAT THEREBY OWNERSHIP OF THE WATER OR WATER RIGHTS BECAME VESTED IN THE UNITED STATES IS NOT WELL FOUNDED. APPROPRIATION WAS MADE NOT FOR THE USE OF THE GOVERNMENT, BUT, UNDER THE RECLAMATION ACT, FOR THE USE OF LANDOWNERS; AND BY THE TERMS OF THE LAW AND THE CONTRACT ALREADY REFERRED TO, THE WATER RIGHTS BECAME THE PROPERTY OF THE LAND OWNERS, WHOLLY DISTINCT FROM THE PROPERTY RIGHTS OF THE GOVERNMENT IN THE IRRIGATION WORKS."

> "THE PROPERTY RIGHT IN THE WATER RIGHT IS SEPARATE AND DISTINCT FROM THE PROPERTY RIGHT IN RESERVOIRS, DITCHES OR CANALS. THE WATER RIGHTS IS APPURTENANT TO THE LAND, THE OWNER OF WHICH IS THE APPROPRIATOR."

IF THE WATER BELONGS TO THE OWNERS OF THE IRRIGATED FARM LANDS, WHICH THE SUPREME COURT OF THE UNITED STATES, IN EFFECT, HAS SO STATED, THEN HOWIN THE WORLD CAN THE BUREAU OF RECLAMATION LEGALLY OR ETHICALLY CHARGE THE IRRIGATED FARMERS BY CHARGING THEIR RESPECTIVE IRRIGATION DISTRICTS FOR POWER INTERRUPTION CHARGE FOR SILT RUNS FOR THE UNAVAILABILITY OF THE FARMERS' OWN WATER.

ALL OF OUR PEOPLE HERE TODAY HAVE TRAVELED A LONG DISTANCE TO APPEAR BEFORE YOUR COMMITTEE AND WE ARE EACH PREPARED TO ANSWER ANY AND ALL OF YOUR QUESTIONS.

WE ASK FOR YOUR HELP IN RESOLVING THIS CONTROVERSY WHICH S. 1590, SEEKS TO ADDRESS.

THANK YOU FOR THE OPPORTUNITY TO APPEAR BEFORE THIS COMMITTEE.

Senator NICKLES. Thank you, Mr. Hoyt, and I apologize for—I was reading your name tag as "Hort", and I apologize for that.

Mr. HORT. We have two here. Mr. Hoyt is on this side.

Senator NICKLES. Is your name Mr. Hort?

Mr. HORT. Mr. Hort.

Senator NICKLES. Well, that was correct. I was looking at this, and I wasn't sure who I was talking to. OK, so thank you, Mr. Hort, and Mr. Hoyt, Mr. Staman, Mr. Franks. Do you have any additional comments that you'd wish to make?

Mr. HOYT. Oh, I think I'd like to make a few comments. I have been a director since 1952, and I was working for the Bureau at the time the districts were taken over, so I know the condition of the system.

Also, it's very unusual—I spent 45 years—have been in every one of the 17 States. I've been in your State, and, in fact, I had the privilege of living there for a while. My district is about 100,000 acres from Nebraska, and we carry water for two districts.

In Wyoming—and we have 54 percent of our land is fourth-class land, which today, the Bureau wouldn't put water on, but we have homes on it, and people are trying to make a living, and some of it is pretty substandard but any more additional expense to them is out of the question, yet those same people went without and paid out, and we do not owe the United States one penny of rehab or construction. I just want to get that on in——

Senator NICKLES. The water district has totally paid all the construction costs?

Mr. HOYT. Construction is 100 percent paid, and one other district is the same situation.

Senator NICKLES. The entire irrigation system or just that particular water district?

Mr. HORT. Two districts have been paid off, Pathfinder irrigation district and the district that I represent here in Fort Laramie have paid their total construction charges.

Mr. HOYT. Right.

Senator NICKLES. Are there other districts that are not fully paid?

Mr. HORT. One, the Goshen irrigation districts located in Wyoming——

Mr. HOYT. Not too much—they don't——

Mr. FRANKS. Wyoming, we still owe about $280,000. Wyoming is always a little slower than Nebraska, you know.

Senator NICKLES. We're not talking about football. We were—[Laughter.]

I am going to—there's going to be a direct relationship between the progress of this bill and the score of the game. [Laughter.]

Mr. STAMEN. I might say this. Both of these districts went into a big rehab program years back, and they're just starting to repay that.

Senator NICKLES. Use the microphone. Hold it.

Mr. STAMEN. I might say this. Goshen and Fort Laramie went into two different rehab programs several years ago so that they had to pay that back, and now they are paying it back, and that makes an extra burden on their part.

Senator NICKLES. I see. Did they line the canals?

Mr. STAMEN. Well, part of the Gering—Fort Laramie is—well, maybe I better turn this over to Bill Franks because he was there when they did line it. It was an asphalt membrane, and he can tell you the conditions of that lining today.

Mr. FRANKS. Yes; I'd answer that question. Currently, our Goshen irrigation district, located entirely in Wyoming, consisting of 52,000 plus acres, has an R&D program, and according to the Bureau's figures—I mean, I just noticed in their rehab and betterment program investigations, will probably be paid out by the year 2037.

We currently owe in excess of $2½ million on this R&D program. In about the year 1950, thereabouts, there was—was the beginning of this R&D program, and the districts—our district lined, I would say, at least 5 or 6 miles in different locations of main canal.

We used an asphalt membrane lining. This lining was sprayed on, asphalt membrane and then covered with a layer of course gravel or rock, pine rock.

At that time the cost of this program was approximately $50,000 a mile. This was not done by the individual—our district; it was contracted. There was extensive underground pipeline put in our system, many miles of it, and that was what the balance of this figure amounts to, so we've been paying on this R&D program since approximately the year 1950.

In other words, we've paid for 30 years on this program, and we still have, it looks like, many years left.

Senator NICKLES. So this was done in 1950? How much was the total rehabilitation project in 1950?

Mr. FRANKS. I can't answer that question, but I would say it was done in two different contracts; the total was probably right around $5½ million.

Senator NICKLES. And payouts will continue to the year 2037?

Mr. FRANKS. That's correct.

Senator NICKLES. How did you get it stretched that far if it was done in 1950?

Mr. FRANKS. Because it was done in two separate contracts.

Senator NICKLES. I am still questioning how you got that far in the out years for repayment, because it's usually repayment of what, 40 or 50 years?

Mr. FRANKS. Well, we completed or nearly completed in the first segment of this contract on our payment, and we are starting—well, I think it's next year, we'll be starting on the second leg of it. Now I am not that well acquainted with how it was conceived or done.

Senator NICKLES. Well, we're getting a long ways—I don't need to get that involved in what you're doing, but to get back a little bit more toward the bill and the remedies that you're trying to seek, I was pleased with the Commissioner's statement. I think it did show some flexibility and a willingness to try and resolve this problem, and I'll repeat my statement, that I would like to see it resolved administratively, if possible, and not necessarily legislatively.

Regardless, and I'll compliment the legislation's authors and certainly the Senators and Congresswoman Smith, who have been instrumental in bringing this to a head. I hope the legislation has the tendency to get all parties to the table and maybe work out a compromise. Certainly it's a problem for which the solution is maybe not readily accessible, but it's one that I think everyone is willing to try to get solved. I would concur with Mr. Hort, your comments that it certainly wouldn't behoove anybody or help anybody to see this thing protracted out in the courts for a long time, and have a lot of expense both on the irrigators part and the Government's part fighting a suit where money is expended and won't really be of benefit to any of the parties involved. So we'll certainly try and avoid that situation, and see if we can't make some accommodations—maybe some accommodations on both parts.

The Commissioner indicated that the smaller price, although you might not be inclined to go along with it, that maybe some accommodations could be worked to make it agreeable and livable on all sides.

Mr. HORT. Senator, I would like to clarify a point, I think that Mr. Frank was trying to make. Goshen irrigation district, since 1952, spent $42,289,250 to improve the system, and the Pathfinder irrigation district, since 1962 spent $1,752,947 to improve the system.

My district, Gering-Fort Laramie, since 1952 has spent $3,822,000 in this mandatory contract that we're still paying, and——

Senator NICKLES. Are you paying on those over a 40-year period of time?

Mr. HORT. Well, 1952 is about paid. Now we're starting on the 1962, and it will be about paid in the year 2000, something that you referred to. I think the point we're trying to make here is that it has been indicated that we were a little bit reluctant to line the canals or spend money, but we are spending a number of funds that irrigators are already assessed to about as far as they can go.

The point has been made in some of the comments in the material that you have that the districts were able to pay more, and this is the point, I think, that Phil is trying to make.

Senator NICKLES. You would probably, too, I would think, concur with the Commissioner's comment that—or be pleased with his comment that he would be willing to continue the silt run as presently conducted, as long as the supply of silt remains. Has an up-

stream dam limited the amount of silt that would be in the Guernsey?

Mr. HORT. Yes; the reservoir—we normally held about 73,000 acre feet of water, and I think it probably has something like 30,000 some odd thousand acre feet of silt now with a balance of water.

We feel—we take out normally about 18 acre feet of water during an annual silt run—18-acre feet of silt, OK, let me retract that, so we feel that if you figure that out, if all the material that's in the reservoir is the type of material that we need to line the canals, there's enough silt that could last many, many, many years, so this is—and we have done a lot of research and investigation as to what could replace the silt in lieu of lining or concreting the canals, and all the research we have done when we get back to the final analysis, this is the most economical, and since it's there, we feel that that is what should be used, plus the fact by taking out *x* number of acre feet of silt, we're increasing or maintaining the storage capabilities of that reservoir.

Senator NICKLES. So we have the cooperation with the Commissioner, I think, in that respect, so what would need to be resolved then would be the dollar question as far as the revenues and shortage of running power during that silt run.

Mr. HORT. Well, we'd like to make——

Senator NICKLES. And that's only happened—you've only been charged for that since when?

Mr. HORT. 1975 was the first one that we—they started—they made a—we had some sluicing in the bank back in 1959 and they—maybe you would care to——

Senator NICKLES. Mr. Hoyt, were you still with the Bureau at that time?

Mr. HOYT. Not in 1959 but I was a director on the irrigation district at that time, and Floyd Dominey who lives in this area now was the Commissioner, and he was a friend of mine, and I called him on the phone, and I said we are in big trouble out here. We ordered the annual silt run and we didn't get it.

He didn't even know about it he said, but he said that I'll see that you get about a week of it, and then you'll pay the other charge and we've been criticized since then for saying that we would, but we were in trouble. We were in the middle of the irrigation district, and it was hot and we had to have it.

And so he did. Immediately got silt, and I want to follow this up because I say if ever here annually at the national, and he says I've done a little research on this. I found out that you were promised silt, and we've got affidavits in this handout we had today to show you, and he says, I am not going to make a charge, and he never did, as long as he was Commissioner.

He was one Commissioner that went over administration to the other.

Senator NICKLES. So you never were charged for the silt run up until 1975. A new Commissioner——

Mr. HOYT. 1975 is when they started again.

Senator NICKLES [continuing]. Came in and made the silt run and then charged—did the districts pay for the cost at that time?

Mr. HOYT. Yes.

Senator NICKLES. And that was what, $20,000?

Mr. HORT. Well, the first one wasn't that much however, we did pay for it.

Senator NICKLES. Have you been paying for it? Did you pay for it last year?

Mr. HORT. That's the first year we hadn't. Others we paid under protest.

Senator NICKLES. OK. So during 1975 to 1981, you paid under protest?

Mr. HORT. 1982, we didn't pay.

Senator NICKLES. 1982 you did not pay, and the bill for 1982 was how much?

Mr. HORT. $25,000.

Mr. FRANKS. $23,000 plus.

Senator NICKLES. Oh. For 1982 it was $23,000, so for those previous years it was—the dollar amounts were—1975 then what were the dollar amounts?

Mr. STAMEN. Senator, those were based on the old power outage.

Senator NICKLES. I understand.

Mr. STAMEN. In 1978 is when seemed like everything went wrong, when Western Power took over marketing of it. Then we had to start paying replacement and that is what has really got us in serious trouble, because we don't have any idea what they'll be on in another year.

Senator NICKLES. So the later 1970's you were paying how many thousand dollars a year average?

Mr. STAMEN. We have it here now——

Mr. HORT. Silt run was run from July 18 to July 29. In 1976, we paid—1977 was the first that we paid there—kilowatts we had paid $5,639—1977—in 1976, we paid $1,868 on down, and in 1982, that would have been $23,497.47, and 1983, I think it said something like $60,000, and then for 1984 we got a letter from the Bureau that indicated it would be $137,000.

Senator NICKLES. A letter from the Bureau that it would be that much, or a letter from Western Power?

Mr. STAMEN. We have no negotiations with the power—no——

Senator NICKLES. So Western Power goes through the Bureau and the Bureau goes to you?

Mr. STAMEN. Right.

Senator NICKLES. I understand, and I also understand what Western Power is doing in replacement costs. We also wrestle with those problems, and again, I'd say those were problems that are easier said than done. You know, if they are paying that much for power, and they're saying we lost that power generation, we shouldn't lose money for that additional power. That is their argument.

Mr. Franks, you have something else?

Mr. FRANKS. Yes, Mr. Chairman. I'd like to clarify one point here that probably hasn't been brought out. On a normal year, Guernsey powerplant will only be operable for 5 months out of the year, that is from the first of May to the first of October, which we commonly call the irrigation season. If power were preferential on the North Platte system, obviously, the plant would run on a year-

round basis, so I wanted to bring that point out, and there is one other point——

Senator NICKLES. And your silt runs are made in this same period of time?

Mr. FRANKS. The silt run is generally during the peak demand for irrigation water. Our contract with the U.S. Government calls for delivery of water at the behest of the irrigation districts. Now, obviously, and it's the—the Bureau will back me up on this—the districts can deliver more water to an individual irrigator on all parts of the districts, all three districts, during a silt run, and for a period after.

We gain water. We don't lose as much water seepage and so forth, so my contention is that when—we can't deliver as much water if we don't have an annual silt run. I would like to—I am practically through here.

I would like to recognize Commissioner Broadbent, and I appreciate his remarks on negotiating power interference costs, and I don't see any reason why—we're certainly willing to sit down and listen to him.

Senator NICKLES. I appreciate your comments and my staff will work with Congresswoman Smith and the Senators, who have a direct involvement, and the Bureau and see if we can't come up with something that we can all live with and keep it out of courts and maybe out of Congress, too, to that extent, or at least, from a legislative solution, if possible. If not, we'll see if we can't work up something legislatively, or a combination of both.

Gentlemen, I appreciate your appearance before the committee. I know that you did travel a long way. I am most appreciative of that. I would hope that you would communicate to your football team to be a little respectful of Oklahoma when they visit us in the not too distant future; so thank you very much. We'll adjourn the meeting.

Mrs. SMITH. Senator, may I add that we have appreciated very much your careful interest and attention to what has been said, and your thoughtful questions. I can see that you're trying to come to a solution just as we are, and we do appreciate the understanding and the way in which you have presided this morning, and showing a real interest in our problems.

Senator NICKLES. Well, thank you very much. We'll adjourn the meeting. Thank you very much.

[Whereupon, at 12:20 p.m., the hearing was adjourned.]

APPENDIX

Additional Material Submitted for the Record

BEFORE THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON WATER AND POWER

STATEMENT OF CONGRESSMAN CHENEY
ON LEGISLATION TO PROVIDE
FOR CONTINUATION OF THE
GUERNSEY SILT RUN (S. 1590)

Mr. Chairman, Members of the Committee, together with Senators Wallop and Simpson I represent the members of the irrigation districts located in the Wyoming part of the North Platte Irrigation Project, which itself is located in both Wyoming and Nebraska. For many years, the irrigation districts have employed on a seasonal basis a natural water conservation practice known as the "silt run." A "silt run" allows water released from storage and containing silt to flow into the irrigation project distribution systems, lining those distribution systems and increasing their conveyance efficiency substantially.

In the past few years, the North Platte Project and the Secretary of the Interior have disagreed about whether, and on what terms, the silt run should be allowed to continue. The disagreement occurs essentially because the United States some time ago purchased certain hydropower facilities from the project and now claims the right to maximize power output from them even though this would impair or prevent the silt run, a custom which clearly predates the purchase of the facilities.

I have reviewed the correspondence between the Department and the irrigation districts concerning the dispute. I have also reviewed additional materials collected and supplied to me by the irrigators. On the basis of this review, I believe it is likely

that representatives of the United States government promised the irrigation districts during the hydropower negotiations that the customary silt run could continue. Recent Department of the Interior analyses of the dispute appear to concede that such promises were made.[1] Nothing in the contracts between the United States and the project is to the contrary.

For these reasons, I remain unconvinced by the Department's position that its contracts, although silent on this issue, do not allow or require the continuation of the silt run, or that they would allow the Department to impose unspecified, and potentially very burdensome, charges on the irrigators if the silt run interrupts power generation.

It seems to me that in the situation, the Government should be required to keep its promises, and this is what the legislation introduced by the Wyoming delegation would do. The legislation would require the Department to continue the silt run in the return for only those charges already explicitly spelled out for water deliveries under existing contractual agreements.

I welcome these hearings because they will give the irrigators a chance to tell their story to the Committee. They will also provide the Bureau with an opportunity to respond for the record. I'm aware that the Bureau believes they are correct and that there are long-term problems at the North Platte Project which deserve careful evaluation. I encourage the Committee to consider both the need for doing justice to the irrigators and the necessity to do so in a manner which will provide for the continued health of the North Platte Irrigation Project.

1/ Guernsey Silt Run -- Power Interference charges: An Analysis Report, pp. 25-27 (DOI, April, 1983)

STATEMENT

IN SUPPORT OF S. 1590

BEFORE: The Subcommittee on Water and Power of the Committee on Energy and Natural Resources

FROM: Goshen Irrigation District, Gering-Ft. Laramie Irrigation District and Pathfinder Irrigation District

SUBJECT: Power Interruption Charges assessed against the above named Irrigation Districts by the Bureau of Reclamation

and

the release of silt from Guernsey Reservoir to preserve the integrity of the works of the United States transferred to Goshen, Gering-Ft. Laramie and Pathfinder Irrigation Districts known as the North Platte Project

and

to promote the conservation of water.

PROBLEM:

The Bureau of Reclamation, in the year 1975, commenced assessing a power interruption charge against our respective irrigation districts, for silt runs from Guernsey Reservoir, and has continued assessing such charges up to the present time,which, it is submitted, are wrong, unjust and illegal. These charges of the Bureau have been paid by the Irrigation Districts, under protest.

AMOUNT OF CHARGES:

The Bureau since its inception of these power interruption charges in 1975 has assessed power interruption charges against our three irrigation districts totalling $126,577.57. These charges, for the most part, have increased every year since their inception and the Bureau has threatened to increase the amount of these charges, even more, as the cost of power to consumers rises. The Irrigation Districts have recently been advised by the Bureau as follows:

> Beginning in 1983, the 6.0 MW capacity of Guernsey Powerplant is included in the 463 MW to be marketed by Western as firm capacity and accordingly, the cost of the power interference caused by the Guernsey silt run would be the purchase of replacement capacity rather than the loss of revenues. Such power interruption charges assessed against our three Irrigation Districts could bankrupt our irrigation districts and every farmer in our districts and the North Platte Project itself.

BENEFITS FROM SILT:

Silt has been used beneficially by irrigators for at least 4000 years. The ancient Egyptians depended on silt to revitalize their soil and seal their canals. BRITANNICA JUNIOR #5 p.174 (Encyclopedia Britannica Inc. 1937). The farmers in the North Platte Valley of Wyoming and Nebraska, particularly those who receive their water from the North Platte Project have always depended on the silt carried by the North Platte River to seal their canals and ditches.

Initially, the North Platte River carried a large silt load in the reaches between the storage reservoir at Pathfinder and the diversion dam at Whalen approximately 170 miles down the river. The silt was

diverted into the project canals where it was deposited on the sides and bottom. These deposits prevented scouring and erosion and acted as a covering which deterred waste and seepage. The irrigators' problems with undue carriage loss and seepage began in 1927 with the construction of Guernsey Dam and Reservoir some 8 miles above Whalen. Guernsey Reservoir acted as a settling basin and trapped most of the silt carried by the river. The silt that had been deposited on the canals and laterals was soon scoured and eroded away by the clearer water. As a result of this scouring large quantities of water were soon being lost from the canal due to seepage or percolation. (Silt Run Investigation, North Platte Project, Irrigation Season 1959) by Wesley K. Lundgreen, Soil and Moisture Conservation Engineer, Bureau or Reclamation).

Clear Water is not as efficient in the irrigation of crops as is silty water. The silt and sediment carried in the water act as a fertilizer and soil builder, they also seal the soil in the fields so water does not percolate beyond the crop roots zone. Secondly, clear water has a decreased spreading quality. (Lundgreen Ibid) After the construction of Guernsey Reservoir, the irrigation districts have made periodic silt runs from Guernsey during the irrigation season, by lowering the water stored in Guernsey Reservoir and washing out the silt that had been trapped in the basin, sending the silty water down to the irrigators. Usually one or two silt runs are made each year in order to realize the most effective utilization of the water.

BACKGROUND:

The North Platte Project was one of the first projects authorized for construction under the reclamation act of 1902 and was for the primary purpose of providing construction of irrigation works for the reclamation of arid lands. The irrigated lands under the project extend approximately 111 miles along the North Platte River Valley from near Guernsey, Wyoming, to below Bridgeport, Nebraska. The project provides water for irrigation of approximately 390,000 acres of land and broken down into farmsteads, based upon the assumption that an individual farm consists, on the average, of approximately 240 acres, means that there are approximately 1,625 individual farmers and farmsteads who, for the most part, are included under irrigation districts. There are four principal irrigation districts, sometimes referred to as the "government districts", being Goshen Irrigation District, consisting of approximately 55,000 acres of irrigated land; Pathfinder Irrigation District, consisting of approximately 102,738 acres of irrigated land; Gering-Ft. Laramie Irrigation District, consisting of approximately 54,845 acres of irrigated land; and Northport Irrigation District, consisting of approximately 16,170 acres of irrigated land. There are numerous other smaller irrigation districts. The Government districts have direct flow rights from the North Platte River and storage rights and water rights in Pathfinder Reservoir, and each has paid, and are paying their proportionate share of the construction and maintenance of Pathfinder Dam. Our three irrigation districts are the only ones that the Bureau has seen fit to assess a power interruption charge against, although we admit that we are the ones who have ordered the silt runs.

Pathfinder Dam, which is located approximately 170 miles upstream from Guernsey, Wyoming, was one of the first constructed by the Reclamation services and its reservoir has a storage capacity of 1,016,000 acre feet and holds much of the North Platte Project water. Pathfinder, after being under construction for several years, was put into operation in the year about 1908. Guernsey Dam was completed in the year 1927 with an original reservoir capacity of 73,810 acre feet, but because of silt deposits, this has been reduced to approximately 45,612 acre feet. Glendo Dam was completed in about the year 1957 with an original reservoir capacity of 523,307 acre feet of conservation pool and 273,888 acre feet of flood pool, for a total capacity of 796,195 acre feet.

The farmers under the Irrigation Districts, from their very inception up to the present time, rely upon silt to seal their ditches and canals which makes their delivery system workable, operable and practical and provides the maximum use of the water available.

Prior to the year 1952, the Irrigation Districts owned the power facilities and the power revenues from Guernsey Reservoir. At the request of the Bureau of Reclamation, the Irrigation Districts negotiated Amendatory Contracts with the United States which transferred the power facilities to the United States, with the Irrigation Districts receiving in exchange, a credit on their construction charges.

During the negotiations for the Amendatory Contracts of 1952, and thereafter, silt runs were discussed on many different occasions between the Irrigation Districts and representatives of the Bureau of Reclamation and the Irrigation Districts were assured by authorized representatives

of the Bureau, that their silt runs would continue and that they would get silt releases when needed, without charge or assessment.

Language was important in the Amendatory Contracts and was discussed and rediscussed and representatives of the Bureau orally assured the Irrigation Districts that the language contained in such contracts fully protected the Irrigation Districts insofar as their silt runs were concerned and Irrigation Districts could continue their silt runs without any harrassment or charge by the Bureau.

The Bureau of Reclamation in the year 1959 first attempted to assess a Power Interruption Charge against our three irrigation districts for loss of power resulting from a second silt run that particular year. This was contested by the Irrigation Districts and in 1960, a detailed Memorandum was prepared by Lester A. Danielson, attorney for Gering-Fort Laramie Irrigation District and Pathfinder Irrigation District, and George P. Sawyer, Attorney for the Goshen Irrigation District, and submitted to the Honorable Floyd E. Dominy, Commissioner, Bureau of Reclamation, United States Department of Interior. Apparently, this Memorandum and the strong opposition by the Districts deterred the Bureau of Reclamation from attempting to make any further power interruption charges for silt runs against the Irrigation Districts until the year 1975, at which time the Bureau of Reclamation, apparently trying to gain additional revenues, and contrary to previous promises, started to assess a power interruption charge against the Irrigation Districts for silt runs and this has continued to the present time. Interesting is the fact that in the year 1975, the Bureau assessed no power interruption charges against the Districts for

the regular silt run but only for a five day extension of the regular silt run. Commencing in the year 1976, the Bureau began assessing power interruption charges against the Districts for each and every silt run. Our three Irrigation Districts involved have paid these power interruption charges assessed by the Bureau, under protest.

Our present attorney, Bob C. Sigler, of Torrington, Wyoming, under date of December 17, 1982, in our behalf submitted a detailed Supplemental Memorandum to Mr. James Watt, Secretary of the Interior, and attached to it is a copy of our Original Memorandum prepared by our attorneys in the year 1960. The memorandums have attached numerous exhibits and affidavits besides setting forth case law and in effect amount to legal briefs showing clearly that the Bureau of Reclamation is wrongfully and in fact illegally assessing power interruption charges against our irrigation districts, for silt runs.

ERRONEOUS AND ILLEGAL ASSESSMENT AND CHARGES:

Why are the power interruption charges by the Bureau wrong?

(1) Bureau representatives did on many occasions, prior to the time the Irrigation Districts relinquished these power facilities to the Bureau, assure the irrigation districts that their silt runs would not be affected. When they entered into the amendatory contracts of 1952, the Bureau representatives continued to assure the Irrigacion Districts that they could have their silt runs without any power interruption charges. All of this is substantiated by the Supplemental Memorandum, the original Memorandum, and further affidavits that have been furnished to the Bureau of Reclamation.

(2) When the Bureau was attempting to get authorization to construct Glendo Reservoir, which is approximately 20 miles upstream from Guernsey Reservoir, the representatives of the Bureau again assured the Irrigation Districts that there would be no power interruption charges, and this is substantiated by further affidavits which have been furnished to the Bureau by former employees of the Bureau of Reclamation.

(3) The amendatory contracts, themselves, included language as follows:

> "The District's right to project water for irrigation uses shall be protected, conserved and administered first in right as against other uses, and such right shall not be impaired by the operation by the United States of any power producing facilities now or hereafter constructed."

and in practically all meetings between representatives of the Bureau and representatives of the Irrigation Districts, silt runs were discussed, and representatives of the Bureau assured representatives of the Irrigation Districts that the silt runs would be continued as ordered by the Irrigation Districts, without any power interruption charges of any kind or nature whatsoever.

(4) The National Reclamation Act of June 17, 1902, as interpreted by the Courts, say the statute and its amendments are reclamation acts, not commercial power development acts, and that the dams and reservoirs built under the 1902 Act are to be operated principally for the benefit of the irrigators.

(5) The Bureau of Reclamation has no rights to power generation uses in the Pathfinder Reservoir or a permit issued by the State of Wyoming, where it is located; and have, in fact, assigned any rights it may have had to Pathfinder storage when Secondary permits were filed by the Bureau, attaching Pathfinder storage water to specific lands for irrigation purposes. These Secondary permits were then adjudicated by the State of Wyoming to 3,217 individual landowners who became the legal owners of Pathfinder storage. These landowners of Pathfinder storage rights who are included in our Irrigation Districts are also assessed annual Operation and Maintenance charges for operation and maintenance of Pathfinder and Guernsey Reservoirs, which are understood to be reserved works. Neither the irrigators nor the Irrigation Districts have objected to the use of Pathfinder storage for power generation by the Bureau at Fremont Canyon and Alcova then restorage in Glendo Reservoir until irrigation season. However, the irrigators have never given up ownership of the water but merely have not objected to the above use. The irrigators and Irrigation Districts do however most strenuously object to a power interruption charge by the Bureau for the alleged unavailability of water owned by the irrigators, for a period during the silt runs.

(6) In Nebraska v. Wyoming, 325 U.S. 589, one of the landmark cases in water law and the one case allocating waters of the North Platte Project, the Supreme Court of the United States, at page 614 of its opinion stated as follows:

"We can say here what was said in Ickes vs Fox.....Although the government diverted, stored and distributed the water, the contenetion of the petitioner that thereby ownership of the water or water rights became vested in the United States is not well founded. Appropriation was made not for the use of the government, but, under the Reclamation Act, for the use of landowners; and by the terms of the law and the contract already referred to, the water rights became the property of the land owners, wholly distinct from the property rights of the government in the irrigation works."

"The property right in the water right is separate and distinct from the property right in reservoirs, ditches or canals. The water rights is appurtenant to the land, the owner of which is the appropriator." (Underlining supplied for emphasis)

If the water belongs to the owners of the irrigated farm lands, which the Supreme Court of the United States, in effect, has so stated, then how in the world can the Bureau of Reclamation legally or ethically charge the irrigated farmers by charging their respective irrigation districts for a power interruption charge for silt runs for the unavailability of the farmers' own water.

REPLY OF BUREAU:

Apparently, the Bureau still takes the position that it has a right to assess the Irrigation Districts for power interruption charges, as indicated by a letter dated March 7, 1983, from Mr. Gary Carruthers, Assistant Secretary, Land and Water Resources, addressed to the Honorable Virginia Smith, a copy of such letter is attached to this Summary marked Exhibit "A".

It is stated in Mr. Carruther's letter that "The districts' water contracts, their water rights, and State water law confer no rights to water quality, only quantity". This statement, we believe, is entirely erroneous and legal authority, for our position, is cited in our Supplemental Memorandum commencing at Page 18. Assuming, for the purpose of argument only, that the Bureau is correct in its position that the Irrigation Districts have no guarantee as to quality of water, then why, and for what reason does the Bureau have for believing that it has a guarantee on the quality of water for use in power generation, when in fact the water belongs to the irrigators as previously discussed (Pathfinder Reservoir water ownership is, in fact, the water primarily involved).

Mr. Carruthers further states in his letter that "The permanent exception to the Wyoming water quality standards granted to the Bureau of Reclamation by the Wyoming Environmental Quality Council for the turbidity caused by the silt runs indicates that the reservoir releases for silt are not a normal mode of operation." This statement is also erroneous in that the Department of Environmental Quality of Wyoming has granted a permanent exemption for silt runs. Attached to this Summary marked Exhibit "B" is a copy of a News Release from the Wyoming Department of Environmental Quality. The Irrigation Districts have been assured that the exemption for future silt runs is permanent.

Insofar as the permanent exception to Water Quality Standards granted by the Wyoming Department of Environmental Quality is concerned, Mr. Carruthers' statement in his March 7, 1983, letter to Virginia Smith is misleading. The sole petitioner before the Wyoming DEQ in this

matter was Goshen Irrigation District (a Wyoming District under the North Platte Project). The entire case before the Wyoming DEQ was put on primarily by the Irrigation Districts, here involved, and action by the Wyoming DEQ was in response to the Irrigation Districts petition and not to any action or Petition brought or filed by the Bureau of Reclamation. For the Bureau to now claim that it was granted a permanent variance appears presumptive on its part and completely erroneous. Secondly, any inference that this action has any pertinence to power interruption charges assessed by the Bureau against our three Irrigation Districts is not valid.

Mr. Carruther's statement in his letter, that power interruption charges are not unreasonable and that power interruption losses are incurred because of silt releases, are at best weak arguments by the Bureau for a continuance of a charge objected to by the actual owners of the water involved and the same argument which the Bureau has continued to use since the inception of their power interruption charges. Whether or not the charges are reasonable probably depends upon whose ox is being gored. Mr. Carruthers further states in his letter that "The 1952 amendatory contract by which title and operation of the Guernsey Dam power generation plant was transferred from the irrigation districts to the Bureau of Reclamation does not prohibit imposition of the power interruption charge. The contract is silent on this issue." This statement is also erroneous and it amounts to an unfair interpretation of the language by the Bureau as pointed out in our Supplemental Memorandum.

In fact the Bureau originally and until the year 1975, some 23 years after the date of the amendatory contracts of 1952, recognized that there should be no power interruption charges assessed against the irrigation districts for silt runs. In further reply to Mr. Carruthers, on this point, we ask where it is stated in the 1952 amendatory contract that the Bureau can assess power interruption charges against the irrigation districts for silt runs. It isn't and it wasn't intended to be so stated and in fact, the intent was that there would be no power interruption charges assessed by the Bureau for silt runs.

COUNTER-OFFER OF BUREAU OF RECLAMATION

The Bureau of Reclamation, through some of its representatives has since Mr. Carruther's letter, made a compromise or counter offer to permit the Irrigation Districts to continue its silt runs with no power interruption charges for a period of ten (10) years if the Irrigation Districts will place the sum of $100,000.00 annually (Bureau's estimate of minimum annual value of the power generation foregone by the silt run) in an interest bearing reserve fund to be used for implementation of corrective action to modify the district's canals and laterals to reduce seepage losses and thus eliminate the future need for the silt runs.

The Irrigation Districts could not and cannot accept this kind of proposal.

The Irrigation Districts have, since the time they accepted and took over the project, expended millions of dollars to prevent and

reduce seepage losses. For example, some of the amounts expended by the Irrigation Districts for Rehabilitation and Betterment Programs and reshaping in recent years, are as follows:

Goshen Irrigation District (since 1952)	$ 4,289,250.00
Pathfinder Irrigation District (since 1962)	1,753,947.00
Gering-Ft. Laramie District (since 1952)	3,822,585.00
TOTAL	$ 9,865,782.00

The above figures reflect the amounts expended by the Irrigation Districts since the year shown and certainly do not reflect the total amounts expended to reduce and eliminate seepage since the Irrigation Districts took over the project. The figures are cited as an example only, and were readily obtained from the records of the respective Irrigation Districts. The above figures also do not include the operation and maintenance costs of the respective irrigation districts, of which a large portion is used every year to reduce and eliminate seepage. The Irrigation Districts, over the years, have lined segments of their canals with various types of linings. Their experience with presently available linings, being concrete, asphalt and plastic, shows that no practical, efficient and maintenance free lining has as yet been developed. Water penetrates or gets under the linings, causing them to break and deteriorate with the natural freezing and thawing action of the weather. The Irrigation Districts cannot afford to pay the increased operation and maintenance costs that would result if all the canals were lined and the lining maintained. Lining is not the complete alternative for the silt runs. A satisfactory alternative for the silt runs has not, at this time, been found.

The compromise offer or the counter offer of the Bureau of Reclamation is not acceptable to the Irrigation Districts and could result in bankruptcy to many irrigated farmers, during this time of low agricultural commodity prices and high operating costs, which could in effect bankrupt the whole North Platte Project.

Attached hereto, marked Exhibit "E", is a copy of our letter of September 13, 1983 to the North Platte River Projects Manager of the Bureau of Reclamation, setting forth the reasons why the Irrigation Districts cannot pay for the ever increasing power interruption charges assessed by the Bureau of Reclamation, which it estimates will more than double from 1983 to 1984.

S. 1590

There have been some comments made that this bill, if enacted, would require the U. S. Government to furnish Silt runs to the irrigation districts forever, even though the silt in Guernsey Reservoir becomes depleted and the Government would be required to haul in silt and sediment. This is not what the irrigation districts are asking.

The Bureau of Reclamation estimates that the silt in Guernsey Reservoir will last for 15 years. The management of the Irrigation Districts believe, from their knowledge and observation, that the sil in Guernsey Reservoir will last for many more years and could possibly last for another fifty (50) years.

The Irrigation Districts only want the silt run, free of any power interruption charges, to which they are rightfully entitled, during the time the silt is available in Guernsey Reservoir and would have no objection to an amendment to the bill to provide for such clarification.

CONCLUSION:

Because this is a summary, we have not attempted to set forth legal citations which have been included in our Memorandum and Supplemental Memorandum transmitted to the Secretary of Interior.

Attached hereto marked Exhibit "C" is a copy of our letter to the Secretary of Interior dated December, 1982, at which time our Supplemental Memorandum was transmitted to him. This letter also contains considerable information and for that reason, it is submitted for your review.

Also attached hereto for your information, marked Exhibt "D" is a copy of our letter to the Secretary of Interior, dated January 14, 1983, enclosing a Supplemental Affidavit of Gordon L. Cruse, a former employee of the Bureau of Reclamation.

It is the contention of the Irrigation Districts that they are not liable to the Bureau or anyone else for the power interruption charges resulting from silt runs and this fact is clearly borne out by our Original Memorandum and the Supplemental Memorandum previously submitted to the Bureau of Reclamation and Secretary of Interior.

The Original Memorandum, together with the Supplemental Memorandum and the Affidavits submitted therewith as Exhibits, are believed to substantiate the contention of the Irrigation Districts that the power interruption charges assessed against the Irrigation Districts by the Bureau of Reclamation for silt runs, are unjust and illegal.

Although we firmly believe that our position is sound, being that the power interruption charges for silt runs assessed by the Bureau of

Reclamation are illegal, we do not feel that the irrigation districts should be put to the tremendous expenses of litigating this matter.

What benefits do the North Platte Project (irrigation districts) really get from the use of storage owned by them for power generation purposes? It is generally conceded under Wyoming law that water legally stored in a reservoir is owned by those parties (irrigated farmers) owning land described to be irrigated by so called secondary water rights. Does the Bureau of Reclamation have any evidence that storage was reserved to it which is not described by the secondary water rights of the irrigated farmers, if not, what ownership does the Bureau of Reclamation have to the water stored in Pathfinder Reservoir?

We realize that the administration does not want giveaway programs. We are not asking for a giveaway program. We are asking that the United States government back up its statements made by its duly authorized representatives and we are asking for a fair shake, which means that there should be no power interruption charges made by the Bureau of Reclamation for the required silt runs of the irrigators. We have cooperated with the Bureau of Reclamation at every step. We were induced to enter into the amendatory contracts of 1952 and induced to permit the building of Glendo Reservoir with representations that there would be no charge for the power interruption, for silt runs, which we relied upon. Several Secretaries of Interior, which it is believed to be about seven, abided by the Bureau's agreements and representations and no power interruption charges were ever assessed against the Irrigation Districts until the year 1975. To permit such charges by the Bureau of Reclamation,

contrary to its past agreements and representations, is something we do not believe should be sanctioned by our government.

All of our people here today have traveled a long distance to appear before your Committee and we are each prepared to answer any and all of your questions.

We ask for your help in the passage of this bill, S. 1590.

Thank you for the opportunity to appear before this Committee.

EXHIBIT "A"

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

MAR 07 1983

Honorable Virginia Smith
House of Representatives
Washington, D.C. 20515

Dear Ms. Smith:

We have completed the review of the documents relative to the Guernsey Dam of the North Platte Project and the silt run issue. The Solicitor's Office supports the continuance of the charge for the interruption of power generation. The bases for this conclusion are as follows.

The districts' water contracts, their water rights, and State water law confer no rights to water quality, only quantity. The permanent exception to the Wyoming water quality standards granted to the Bureau of Reclamation by the Wyoming Environmental Quality Council for the turbidity caused by the silt run indicates that the reservoir releases for silt are not a normal mode of operation. The 1952 amendatory contract by which title and operation of the Guernsey Dam power generation plant was transferred from the irrigation districts to the Bureau of Reclamation does not prohibit imposition of the power interruption charge. The contract is silent on this issue.

Furthermore, the power interruption charge is not unreasonable. Power revenue losses are incurred because of the silt releases. The districts are charged only an amount equivalent to the revenues foregone. The actual cost to the Treasury due to the purchase of makeup power is much larger.

Your interest and concern in this matter are appreciated. If you desire, we shall be pleased to meet further with you in this regard.

Sincerely,

Assistant Secretary - Land and
Water Resources

EXHIBIT "B"

401 W. 19th Street
Equality State Bank Building
Cheyenne, WY 82002
777-7180

Department of
Environmental Quality

News Release

FOR RELEASE UPON RECEIPT
CONTACT: Lori Nast
777-7077

January 28, 1983

COUNCIL SETTLES SILT RUN ISSUE

The Environmental Quality Council has put to rest the lengthy debate surrounding the Guernsey silt run issue by permanently authorizing the annual flow of silt-laden water from the Guernsey Reservoir.

The Council, which serves as the quasi-judicial body of the Department of Environmental Quality, deleted several subsections of the Chapter I Water Quality Rules and Regulations and adopted a new subsection in lieu of the omitted ones. This new subsection specifically allows the silt run from the Guernsey Reservoir to the Nebraska state line. Governor Herschler must sign the rule change before it will become effective.

One of the Council members, Lee Keith of Buffalo, served as the hearing officer at the most recent public hearing held in Torrington last November. Keith feels the adopted rule change is fair. "The silt run is more advantageous than any other method of ditch lining. There's no longer any opposition to this. The rule change seems to satisfy all parties."

William L. Garland, Administrator of the Water Quality Divison of the Department of Environmental Quality, states, "The present evidence seems to

-MORE-

show that the benefits of the silt run to the irrigators outweigh the harm to the stream. The Department also feels that the Council was correct in modifying the turbidity standard rather than taking the much more extreme step of re-classifying that stretch of the Platte River."

As expected, members of the affected irrigation districts are happy with the ruling. Neal Payne, President of the Goshen Irrigation District, said, "I'm real pleased with the decision they made and am sure the other districts are too. The decision gives us some leeway to operate now without having any of the problems."

As many area residents can attest, the silt run controversy has a colorful history. The Guernsey Reservoir was finished in 1927, and by 1931 it was apparent that the reservoir acted as a silt trap. As water was held for a time, silt settled out to the bottom, making the water clearer. However, downstream irrigators found that the clearer water didn't line their earthen irrigation canals as well as the silty water had. Also, the clearer water seeped into the ditches faster, leading to a higher loss of useable water. For these reasons, local irrigators persuaded the Bureau of Reclamation to begin the practice of a silt run. By rapidly lowering the water level of the reservoir, the silt banks which had formed would slough off, causing the water to become silt-laden. Since 1949, at least one silt run has taken place each year. The silt runs last for 10 to 15 days and usually occur in July.

The problem with the silt run is that the silt elevates in-stream turbidity to levels which exceed state standards and have the potential to harm aquatic life. In 1978, the Environmental Protection Agency declared the silt run a violation of state standards and ordered the cessation of the runs. The

EPA then granted a year's reprieve during which monitoring (by EPA) was planned. During the year of reprieve, the Council approved a three year exemption to the state rules, allowing the silt runs to continue.

The Council's most recent decision, therefore, ends the tentative nature of the exemption and permanently authorizes the silt run.

Glenn Goss, Council member from Sheridan, ended the session on a light note by saying, "We're glad this issue is finally settled. The unfortunate thing is that we'll no longer have such a good crowd of Goshen County people coming to our meetings."

EXHIBIT C

Bob C. Sigler
Lawyer
2020 East D Street
Torrington, Wyoming 82240
(307) 532-2128

December 17, 1982

Mr. James Watt
Secretary of the Interior
C Street Between Eighteenth and
Nineteenth Streets NW
Washington, D. C. 20240

Dear Mr. Watt:

Re: Power interruption charges assessed against Goshen Irrigation District, Gering-Fort Laramie Irrigation District and Pathfinder Irrigation District for power lost due to silt runs.

The Bureau of Reclamation in the year 1959 first attempted to assess a power interruption charge against the subject named Irrigation Districts for loss of power resulting from a second silt run in that particular year. This was contested by the Districts and in mid 1960, a detailed Memorandum was prepared by Lester A. Danielson, attorney for Gering-Fort Laramie Irrigation District and Pathfinder Irrigation District, and George P. Sawyer, attorney for the Goshen Irrigation District, and submitted to the Honorable Floyd E. Dominy, Commissioner, Bureau of Reclamation, United States Department of Interior. Apparently this particular Memorandum and the strong opposition by the Irrigation Districts deterred the Bureau of Reclamation from attempting to make any further power interruption charges for silt runs against the Irrigation Districts until the year 1975, at which time the Bureau of Reclamation, apparently trying to gain additional revenues, and contrary to previous promises, started to assess a power interruption charge against the subject named Irrigation Districts for silt runs and this has continued to the present time.

Interesting is the fact that in the year 1975, the Bureau assessed no power interruption charge against the Districts for the regular silt run but only for a five day extension of the regular silt run. Commencing in the year 1976, the Bureau began assessing power interruption charges against the Districts for each and every silt run. The Irrigation Districts involved have paid the power interruption charges assessed by the Bureau, under protest, since their inception to the present time. The problem has been kicked around for the past several years, but the Bureau persists in making and assessing such charges. It is the contention

of the Irrigation Districts that they are not liable to the Bureau or anyone else for the power interruption charges.

Prior to 1952, the Irrigation Districts owned the power facilities and the power revenues from Guernsey Reservoir. At the request of the Bureau, the Irrigation Districts negotiated amendatory contracts with the United States which transferred to the United States, the power facilities and revenues and the Irrigation Districts received in exchange, a credit on their construction charges plus several promises.

The Bureau of Reclamation has not only been the beneficiary of the power facilities and revenue but it receives an additional benefit from the silt runs in that such silt runs increase the capacity of Guernsey Reservoir and in turn enables the generation of more power.

Representatives of the Bureau of Reclamation have several times, in the past and even after the time of the amendatory contracts of 1952, promised the Irrigation Districts that there would be no power interruption charges made or assessed against the Irrigation Districts for silt runs. (See Affidavits attached to Supplemental Memorandum)

During the negotiations for the Amendatory Contracts of 1952, silt runs were discussed on many different occasions and the Irrigation Districts involved were assured their silt runs would continue and that they would get silt when needed. The Irrigation Districts did receive requested silt runs after 1952, without any problems, and without being charged or assessed for any power interruption charges until 1959. In the year 1959, somebody in the Bureau, apparently with some afterthought, determined that the Irrigation Districts should be liable for power interruption charges for any second or subsequent silt run made during the year. This contention was apparently dropped by the Bureau, as aforesaid, and the Irrigation Districts received requested silt runs without any power interruption charges until 1976. In the year 1976, somebody in the Bureau, ignoring past promises and past interpretations, decided the subject named Irrigation Districts should be liable for power interruption charges for all silt runs.

The Irrigation Districts have opposed and objected to such power interruption charges ever since their inception.

As you know, the North Platte Project was one of the first projects authorized for construction under the Reclamation Act of 1902, which act was for the primary purpose of providing construction of irrigation works for the reclamation of arid lands and not for commercial power development.

It is the contention of the Irrigation Districts that they are not only entitled to their allocated quantity of water but also to the same quality of water that they have always received and that quality includes silt.

I firmly believe that the power interruption charges are unjust, inequitable and illegal. I am submitting herewith a Supplemental Memorandum, citing authority, together with a copy of the Memorandum prepared by Mr. Danielson and Mr. Sawyer, and sworn Affidavits by knowledgeable persons, and other Exhibits in support of the contention and position of the Irrigation Districts. I would urge you to have these documents reviewed and to issue a finding that the Bureau of Reclamation cannot and should not assess or impose power interruption charges against the Irrigation Districts for silt runs.

Exhibit "A-1" attached to this letter shows the amount the Districts have paid to the Bureau of Reclamation, under protest, for power interruption charges for silt runs, since their inception in 1975 to the present time, except, it is my understanding the 1982 charges have not been paid. All monies previously paid for these charges should be reimbursed to the respective Districts.

For your further information, I am attaching to this letter Exhibits "B-1", "C-1", and "D-1".

Exhibit "B-1" attached to this letter contains copies of canceled checks from Gering-Ft. Laramie Irrigation District showing the payment of the power interruption charges to the Bureau for the years 1976 through 1981, all paid under protest.

Exhibit "C-1" attached to this letter, is a copy of a letter to the Bureau of Reclamation from Gering-Fort Laramie Irrigation District dated December 12, 1977, again showing that the 1977 charges were paid under protest.

Exhibit "D-1" attached to this letter, is a copy of a letter from Gering-Ft. Laramie Irrigation District to Mr. Joe D. Hall, Regional Director of the U.S. Department of the Interior, dated February 27, 1980, protesting all past, present and future power interruption charges.

In order to avoid this problem in the future, with succeeding administrations, it would also appear advisable to secure something in writing to the effect that the Irrigation Districts are entitled to as many silt runs as requested without any power interruption charges being assessed or charged by anyone.

Thanking you for your cooperation in this matter, I am,

Sincerely,

Bob C. Sigler

Bob C. Sigler

BCS:ik

Encls.

cc: Messrs: Robert N. Broadbent, Commissioner, U.S Department of Interior, Bureau of Reclamation;
Billy Martin, Regional Director, U.S. Department of Interior, Bureau of Reclamation,
Dave Wilde, Project Manager, Bureau of Reclamation, Mills, Wyoming
Goshen Irrigation District
Pathfinder Irrigation District
Gering-Ft. Laramie Irrigation District

EXHIBIT "D"

Bob C. Sigler
Lawyer
2020 East D Street
Torrington, Wyoming 82240
(307) 532-2128

January 14, 1983

Mr. James Watt
Secretary of the Interior
C Street Between Eighteenth and
Nineteenth Streets NW
Washington, D. C. 20240

Dear Mr. Watt:

Re: Power interruption charges assessed against Goshen Irrigation District, Gering-Ft. Laramie Irrigation District and Pathfinder Irrigation District for power lost due to silt runs.

I wrote you under date of December 17, 1982, regarding the subject matter and submitted to you a Supplemental Memorandum, together with a copy of a Memorandum prepared by Mr. Danielson and Mr. Sawyer and sworn Affidavits and other exhibits in support of the position of the Irrigation Districts, that there should be no power interruption charges assessed or charged.

Enclosed is a copy of a Supplemental Affidavit of Gordon L. Cruse, showing that the Irrigation Districts did, in fact, give consideration for the promises made by the Bureau of Reclamation that there would be no power interruption charges for future silt runs and also without the assistance of the Irrigation Districts given to secure Congressional approval and allocation of funds for the Glendo project, the Bureau of Reclamation would, at this time, be generating much less power at Guernsey and in a few years could generate no power at Guernsey because of the silt that would have accumulated in Guernsey without the Glendo project. The enclosed Supplemental Affidavit is submitted as further evidence, substantiating and corroborating the position of the Irrigation Districts to the effect that the power interruption charges made by the Bureau for silt runs are unjust, inequitable and illegal and that the Irrigation Districts are rightfully entitled to as many silt runs as requested, without any power interruption charges.

Again, I urge you to issue such a finding, as requested in my letter of December 17, 1982.

Thanking you for your cooperation, I am,

Sincerely,

Bob C. Sigler

BCS:ik

Encl.

cc: Messrs: Robert N. Broadbent, Commissioner, U.S. Department of Interior, Bureau of Reclamation;
Billy Martin, Regional Director, U.S. Department of Interior, Bureau of Reclamation,
Dave Wilde, Project Manager, Bureau of Reclamation, Mills, Wyoming
Goshen Irrigation District
Pathfinder Irrigation District
Gering-Ft. Laramie Irrigation District

SUPPLEMENTAL AFFIDAVIT

STATE OF WYOMING }
COUNTY OF GOSHEN } ss

The undersigned, being first duly sworn, states as follows:

This is a Supplemental Affidavit, supplementing the information contained in my Affidavit of October 1, 1982, regarding power interruption charges by the Bureau of Reclamation to Goshen Irrigation District, Gering-Ft. Laramie Irrigation District, Pathfinder Irrigation District and Northport Irrigation District for silt runs.

Affiant, a former employee of the Bureau of Reclamation and former chief of Irrigation Operations Branch for the Bureau of Reclamation, was employed by the Bureau of Reclamation prior to and at the time Glendo Dam and Reservoir was constructed and placed in operation in 1957, of his own knowledge, knows that the United States Bureau of Reclamation actively urged the Irrigation Districts to support the construction of Glendo Dam, Reservoir and Power Plant. Some of the Irrigation Districts involved were not in favor of the Glendo Project and were instrumental in holding up Congressional approval and allocation of money for the Glendo Project. Support by the Irrigation Districts was believed necessary by the Bureau of Reclamation, in order to gain Congressional approval and allocation of funds for the Glendo Project.

The affiant, acting for and on behalf of the Bureau of Reclamation, and acting on orders from I. J. Matthews, Engineer of Casper, Wyoming, in the year 1956, on more than two occasions promised the four districts (Goshen Irrigation District, Gering-Ft. Laramie Irrigation District, Pathfinder Irrigation District and Northport Irrigation District) that they could have as many silt runs as they desired out of Guernsey without any power interruption charges in exchange for them not contesting the Bureau's planned construction of Glendo Reservoir at Glendo, Wyoming. Because of the promises made by the Bureau of Reclamation to permit as

many drawdowns at Guernsey (silt runs out of Guernsey) as needed or requested by the Irrigation Districts, without any power interruption charges; representatives of the Irrigation Districts went to Washington, D. C., to lobby for the construction of the Glendo Project, assisting the Bureau of Reclamation in accomplishing its desired objectives.

Glendo Reservoir, after its construction, traps most of the silt that previously went into Guernsey Reservoir. Prior to the Construction of the Glendo facilities, Guernsey Reservoir was accumulating sediment at a rate of approximately 1,000 acre feet per year. Assuming that Glendo was not built, Guernsey storage capacity would have been depleted to 18,000 acre feet in 1982. The power head would have been lowered considerably as sediments built up in the Reservoir. Further projections would place the storage capacity at zero in the year 2,000, only 17 years from now. Of course, operation of the power plant would have ceased many years prior to that date because of a limited head of water, and the silt intake into the power units. The power plant needs a good reservoir capacity to provide a sufficient head of water for operation and the water cannot be too silty because it would cause damage to the power unit and put it out of operation.

Guernsey's Reservoir capacity, at this time, is approximately 45,300 A.F. Guernsey's Reservoir capacity, without the construction of Glendo Reservoir (which now catches and holds most of the silt) would be 18,000 A.F.

Affiant firmly believes that it is morally and ethically wrong and completely unjust that the Irrigation Districts should be billed for power losses, when, indeed their support of the construction of the Glendo facilities was a prime factor in its being built, thus preserving the future of the Guernsey Reservoir and power plant. Actually, since Glendo was completed, Guernsey storage capacity has increased. The silt runs from Guernsey since the construction of glendo Reservoir, have removed more silt than the silt load which flows into Guernsey Reservoir.

Further Affiant sayeth not.

Gordon L. Cruse

Subscribed in my presence and sworn to before me this 11th day of January, 1983.

Notary Public

My Commission expires December 9, 1985.

EXHIBIT "E"

Bob C. Sigler
Lawyer
2020 East D Street
Torrington, Wyoming 82240
(307) 532-2121

August 12, 1983

Mr. Dave Wilde, Project Manager
United States Department of Interior
Bureau of Reclamation
North Platte River Projects
P. O. Box 1630
Mills, Wyoming 82644

Re: 1983 Silt Run

Dear Dave:

It is my understanding from Norm DeMott, Manager of the Goshen Irrigation District, that you have requested a letter from Goshen Irrigation District as to whether or not they desire a silt run for 1983.

It is also my understanding that your office has advised Goshen Irrigation District that the power interruption charge that you expect Goshen Irrigation District, Pathfinder Irrigation District and Gering-Fort Laramie Irrigation District to pay for the 1983 silt run will be $63,369. Your office has also advised the districts that the power interruption charges for 1984 will be $137,000.

Attached hereto, for information purposes, marked Exhibit "A-1" is an itemized listing of power interruption charges assessed by the Bureau of Reclamation against the irrigation districts since the year 1975. All power interruption charges were paid 'under protest' except for the 1982 charges which, as you know have not been paid. It is interesting to note the constant increase by the Bureau of Reclamation of the power interruption charges, thereby indicating that the Bureau of Reclamation is not only attempting to renege on its obligation to furnish the irrigation districts silt runs without power interruption charges, but is also attempting to bankrupt the irrigation districts.

Goshen Irrigation District has determined that it can in no way afford to pay the power interruption charges as requested by your office.

Goshen Irrigation District, like Pathfinder Irrigation District and Gering-Fort Laramie Irrigation District, are of the firm opinion that the silt runs should be made and granted upon request, without any power interruption charges and these districts have furnished to the Bureau of Reclamation, documented memorandums supporting their position.

If you persist in attempting to collect power interruption charges for the silt runs, as you have indicated, then there is no way that Goshen Irrigation District can pay such charges.

As I am sure you are aware, the silt runs are necessary to seal the canals and ditches and without the silt runs, the canals and ditches will deteriorate, causing irreparable damages to all irrigators under the irrigation districts.

Very truly yours,

Bob C. Sigler

BCS:KW

cc: Goshen Irrigation District
Pathfinder Irrigation District
Gering-Fort Laramie Irrigation District
Mr. James Watt, Secretary of the Interior
Senator Malcolm Wallop
Senator Al Simpson
Representative Dick Cheney
Representative Virginia Smith
Senator Edward Zorinsky
Senator James J. Exon

EXHIBIT "A-1"

POWER INTERRUPTION CHARGES ASSESSED BY BUREAU OF RECLAMATION AGAINST GOVERNMENT IRRIGATION DISTRICTS FOR SILT RUNS

YEAR	GOSHEN IRRIGATION DISTRICT	GERING-FT. LARAMIE IRRIGATION DISTRICT	PATHFINDER IRRIGATION DISTRICT
1975 (Five Day Extension)	$ 467.20	$ 487.76	$ 913.84
1976	1,422.40	1,434.99	2,782.21
1977	5,483.84	5,725.13	10,726.39
1978	3,558.40	3,714.97	6,960.23
1979	3,631.68	3,791.47	7,103.57
1980	5,709.31	5,960.52	11,167.40
1981	5,509.70	5,752.12	10,776.97
1982	5,874.37	6,132.84	11,490.26
TOTAL	$ 31,656.90	$ 32,999.80	$ 61,920.87

TOTAL $126,577.57

EXHIBIT "A-1"

THE LEAFFER COMPANY, INC.
7 Towne Lyne Road
Sherborn, Massachusetts 02054
617-653-7142

Steven M. Leaffer, *President*

October 9, 1983

Senator Don Nickles
Committee on Energy and Natural
Resources
Subcommittee on Water and Power
United States Senate
5D-360 Dirksen Building
Washington, D.C. 20510

Dear Mr. Chairman:

The Leaffer Company, Inc. as a private firm engaged in water development throughout the High Plains States, wishes to endorse and support the concepts embodied in Senate 1811 authorizing special studies of the potential for groundwater recharge. Although Senate 1811 grants general authority to the Secretary of the Interior to examine various recharge technologies in an attempt to establish economically feasible methods for recharge of groundwater reservoirs, we wish to recommend that your committee specifically consider the concept of utilizing terminal glacial moraines as groundwater replacement systems.

Terminal glacial moraines are natural groundwater reservoirs occurring in glaciated valleys, which were formed during the Wisconsian age, and can be found throughout the Rocky Mountains generally at elevations above 7000 feet. Our company has located and are in the process of developing 72 glacial moraines in the State of Colorado ranging in capacity of 5,000 to 40,000 acre feet of annual water storage potential.

Terminal glacial moraines may be operated in a manner similar to surface water reservoirs because the boundaries of the moraines are well defined and have perennial streams flowing through the middle of the glaciated valleys. Since ground and surface water in these types of structures are in direct hydraulic connection, and recharge and discharge from one system supports flows in the other system, the interchange of ground and surface water allows these reservoirs to be annually recharged naturally.

By installing a system of well fields, tile drains, or infiltration collectors, the terminal glacial moraines can be annually operated in a manner similar to surface reservoirs and offer the following advantages:

1. the ability to store large volumes of water;

2. since underground storage does not expose water to the atmosphere, no evaporation takes place and therefore water stored in glacial moraines will not contribute to the salinity of western rivers;

3. glacial moraines will not silt and as such will last indefinitely;

4. development of this type of water storage will have less of an impact on the environment than development of traditional surface water reservoirs.

Terminal glacial moraines provide an economically feasible alternative surface water supply and can effectively replace deep groundwater pumping thereby recharging depleting nontributory groundwater resources.

The Leaffer Company welcomes the opportunity to work with Congress and the Department of the Interior to develop the concepts enumerated in Senate 1811 and as a private nonfederal entity our company wishes to express our willingness to contribute a 20 percent matching share of the estimated cost of integrating glacial moraines into a system of groundwater recharge.

Sincerely yours,

Steven Leaffer, President

HIGH PLAINS UNDERGROUND WATER
CONSERVATION DISTRICT NO. 1

2930 Avenue Q LUBBOCK, TEXAS 79405 AC/806 762-0181

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August 2, 1983

The Honorable Don Nickles
Chairman, Subcommittee on Water and Energy
Natural Resources Committee
U. S. Senate
Washington, D.C. 20501

Dear Senator Nickles:

We understand that you have several bills pending before your subcommittee which address ground water, including S. 997. Senate Bill 997 authorizes and directs the Secretary of the Interior to engage in a special study of the potential for ground-water recharge in the High Plains states and for other purposes. Page 3, lines 4 and 5 of this bill require "an available surface water supply."

Here in the High Plains of Texas we do not have an available surface water supply. This is also true for the area of the Ogallala aquifer in parts of New Mexico, Oklahoma, Colorado and parts of the other states collectively called "The Great Plains." We do have playa basins (17,000 in the High Plains of Texas) in which rainfall runoff collects. These basins collect water on infrequent occasions, perhaps three years out of each five, in amount which would make it feasible to attempt artificial recharge.

We respectfully request that this language, "an available surface water supply," be deleted or modified to include rainfall runoff water from playa basins. The requirement of an "available surface water supply" as written, would eliminate any artificial recharge efforts in the High Plains of Texas as authorized by the bill.

Additionally, we need another provision added to the bill. We have been engaged in secondary recovery of ground water, a similar technique to that being performed by the oil and gas industry to release oil from depleted reservoirs. The Ogallala Formation in the High Plains of Texas, when saturated, will hold about 40 percent water by volume. Water removed by wells through gravity drainage equals about 15 percent by volume, leaving behind more than half of the water. During the past three years we have been developing techniques to release this capillary water for recovery by wells. Our attempts are the first in history on the release of water from wet sands (secondary recovery) for future recovery by wells. We

would appreciate your including in the language of the bill a statement which would permit, "the investigation of the feasibility of the release of water from wet sands for future recovery by wells." The release of water from wet sands is an addition of water to the aquifer from which wells can produce water. For your possible interest, enclosed are copies of two publications which further describe our work on this project.

I would be pleased to appear before your sbucommittee to explain the need for making the changes in the bill which we have suggested as well as to explain, in whatever detail they are interested, the secondary recovery project and its possible use in similar geologic settings throughout the United States.

Yours,

A. Wayne Wyatt

A. Wayne Wyatt
Manager